



Indian Health Focus

Elders



1998-99

U.S. Department of Health and Human Services

Indian Health Service

Office of Public Health

Office of Program Support

Program Statistics Team

MH02D5118



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Table of Contents

Introduction	1	Chart 4.1 Deaths by Age	13
Summary of Data Shown	2	Chart 4.2 Deaths by Age and Sex	14
Sources and Limitation of Data	5	Table 4 Number and Percent Distribution of Deaths by Age and Sex	15
<i>Population Statistics</i>	5	Chart 5 Age-Specific Death Rates, Ratio of Indians to U.S. All Races	16
<i>Vital Event Statistics</i>	5	Table 5 Age-Specific Death Rates	17
<i>Patient Care Statistics</i>	6	Chart 6 Life Expectancy at Birth	18
Sources of Additional Information	7	Table 6 Overall Measures of Indian Health	19
CHARTS & TABLES			
Chart 1 Population by Age, 1990 Census	9	Chart 7 Death Rates, Leading Causes: Ages 55 to 64 Years	20
Table 1 Percent Age Distribution	9	Table 7 Ten Leading Causes of Death for Decedents 55 to 64 Years of Age	21
Chart 2 Trend in Number of Elders in IHS Service Population	10	Chart 8 Death Rates, Leading Causes: Ages 65+ Years	22
Table 2 Trend in Number of Elders in IHS Service Population	10	Table 8 Ten Leading Causes of Death for Decedents 65 Years Old and Older	23
Chart 3 Income Status in 1989	11		
Table 3 Selected Economic Profiles for the United States, 1990 Census	12		



Table of Contents

Chart 9	Alcoholism Death Rates by Age and Sex	Chart 15	Diabetes Mellitus Death Rates by Age and Sex
	.24		.36
Table 9	Alcoholism Death Rates by Age and Sex	Table 15	Diabetes Mellitus Death Rates by Age and Sex
	.25		.37
Chart 10	Drug-Related Death Rates by Age and Sex	Chart 16	Heart Diseases Death Rates by Age and Sex
	.26		.38
Table 10	Drug-Related Death Rates by Age and Sex	Table 16	Heart Diseases Death Rates by Age and Sex
	.27		.39
Chart 11	Accident Death Rates by Age and Sex	Chart 17	Cerebrovascular Diseases Death Rates by Age and Sex
	.28		.40
Table 11	Accident Death Rates by Age and Sex	Table 17	Cerebrovascular Diseases Death Rates by Age and Sex
	.29		.41
Chart 12	Suicide Death Rates by Age and Sex	Chart 18	Malignant Neoplasm Death Rates by Age and Sex
	.30		.42
Table 12	Suicide Death Rates by Age and Sex	Table 18	Malignant Neoplasm Death Rates by Age and Sex
	.31		.43
Chart 13	Homicide Death Rates by Age and Sex	Chart 19	Death Rates, Leading Cancer Sites: Ages 55+ Years
	.32		.44
Table 13	Homicide Death Rates by Age and Sex	Table 19	Twenty Leading Sites for Cancer Deaths for Decedents 55 Years Old and Older
	.33		.45
Chart 14	Chronic Liver Disease and Cirrhosis Death Rates by Age and Sex	Chart 20	Age-Specific Prostate Cancer Death Rates
	.34		.46
Table 14	Chronic Liver Disease and Cirrhosis Death Rates by Age and Sex	Table 20	Age-Specific Prostate Cancer Death Rates
	.35		.47



Table of Contents

Chart 21	Pneumonia and Influenza Death Rates by Age and Sex	48	Chart 26	Leading Causes of Ambulatory Medical Visits: Ages 55 to 64 Years	58
Table 21	Pneumonia and Influenza Death Rates by Age and Sex	49	Table 26	Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 55 to 64 Years of Age	59
Chart 22	Hospital Discharge Rates by Age	50	Chart 27	Leading Causes of Ambulatory Medical Visits: Ages 65+ Years . . .	60
Table 22	Comparison of IHS and U.S. Hospital Discharge Rates by Age	51	Table 27	Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 65 Years Old and Older . .	61
Chart 23	Percent Distributions for Population and Patient Care Workloads, Ages Over 14	52		Glossary of ICD-9 Codes	63
Table 23	Percent Distributions for Estimated Population, Ambulatory Medical Clinical Impressions, and Inpatient Discharges and Days	53		Methods Used to Rank Leading Sites of Cancer Deaths . . .	67
Chart 24	Leading Causes of Hospitalization: Ages 55 to 64 Years	54			
Table 24	Ten Leading Causes of Hospitalization for GM&S Patients 55 to 64 Years of Age	55			
Chart 25	Leading Causes of Hospitalization: Ages 65+ Years	56			
Table 25	Ten Leading Causes of Hospitalization for GM&S Patients 65 Years Old and Older . . .	57			

INTRODUCTION



The Indian Health Service (IHS) is an agency of the Department of Health and Human Services. The IHS goal is to assure that comprehensive, culturally acceptable personal and public health services are available and accessible to American Indian and Alaska Native people. The mission of the IHS, in partnership with American Indian and Alaska Native people, is to raise their physical, mental, social, and spiritual health to the highest level.

The IHS has carried out its responsibilities through developing and operating a health services delivery system designed to provide a broad-spectrum program of preventive, curative, rehabilitative, and environmental services. This system integrates health services delivered directly through IHS facilities, purchased by IHS through contractual arrangements with providers in the private sector, and delivered through Tribally-operated programs and urban Indian health programs.

The IHS is concerned with the health of American Indians and Alaska Natives of all ages. The IHS presents an overview of the health status of Indians in its annual publication, *Trends in Indian Health*. However, IHS recognizes that there are segments and conditions of the Indian population that require special attention, such as infants, youth, women, the elderly, and injuries. This publication examines the health status of Indian elders. It is based on data published in the IHS publication 1998-99 *Trends in Indian Health*.

The population of interest for this publication is American Indian and Alaska Native elders residing in the IHS service area. Different age groups are associated with the term "elder" (e.g., 50 years plus, 55 years plus, 65 years plus) depending upon the organization and purpose involved. For this publication, elders are defined as persons who are 55 years old and older to correspond with the target population for the IHS and Tribal Elder Care Initiative. The IHS service area comprises the geographic areas in which IHS has responsibility (counties on and near reservations). Approximately 60 percent of American Indians and Alaska Natives in the U.S. reside in the IHS service area. In 1999, there were 1.49 million Indians in the IHS service area compared to 2.44 million in the entire U.S.



Summary of Data Shown

Elders, defined for this publication as persons 55 years and over, comprise a smaller proportion of the American Indian and Alaska Native population than they do of the general U.S. population. According to the 1990 census, the elderly comprise 11 percent of the Indian population, but 21 percent of the U.S. All Races population and 23 percent of the U.S. White population. In FY 1990, there were about 135,000 elders in the IHS service population, compared to about 166,000 in 1999. By the year 2005, the number of elders is expected to be about 183,000. The largest age group within the elder population is for persons 55 to 59 years of age, about 44,000 individuals in 1999.

Indian elders also have a lower economic status than elders in the general population. The 1990 Census indicates that 31.6 percent of Indians of all ages live below the poverty level in contrast to 13.1 and 9.8 percent for the U.S. All Races and White populations, respectively. For 65 to 74 year old persons, the corresponding percentages are 26.9, 10.4, and 8.4. For 75 years and older, the corresponding percentages are 33.3, 16.5, and 14.6.

Indians die at relatively younger ages than the general population, i.e., the Indian population has proportionately less deaths in the older age groups. Fifty-nine percent of Indian deaths pertain to ages 55 and over compared to 84 and 86 percent for the U.S. All Races and White populations, respectively. Indian males die at relatively younger ages than Indian females. The percentage of Indian male deaths pertaining to ages 55 and over is 54 in contrast to 66 for females. These Indian rates have been adjusted for misreporting of Indian race on state death certificates.

Although there are relatively fewer elders currently in the Indian population as compared to the general population, Indian life expectancy has shown dramatic increases since the early 1970's. Indian life expectancy at birth has increased 15 percent between 1972-74 and 1994-96, i.e., from 63.5 years to 73.2 years. The 1994-1996 Indian life expectancy is 2.6 years less than the U.S. All Races life expectancy of 75.8 for 1995 and 3.3 years less than that for U.S. Whites (76.5, 1995). These Indian life expectancies have been adjusted for misreporting of Indian race on state death certificates.

The leading causes of death for elders in the age group 55 to 64 years vary considerably between the Indian population and the general U.S. population. For Indians, the top two causes are diseases of the heart and malignant neoplasms; the order is reversed for U.S. All Races and Whites. The third and fourth leading causes for Indians are diabetes mellitus and chronic liver disease and cirrhosis, while for U.S. All Races and Whites, they are chronic obstructive pulmonary diseases and cerebrovascular diseases. In contrast, Indians elders aged 65 and over tend to die of the same causes, although at different rates, as their counterparts in the general population. The top two leading causes of death are the same for Indians, U.S. All Races, and U.S. Whites 65 years and older — diseases of the heart and malignant neoplasms. The third leading cause for Indians in this age group is diabetes mellitus, while for U.S. All Races and White, it is cerebrovascular diseases. These Indian rates have been adjusted for misreporting of Indian race on state death certificates.



Summary of Data Shown

Alcohol abuse is a serious problem among Indian elders. The highest alcoholism age-specific death rate for Indian males (182.6 deaths per 100,000 population) occurs for the 55 to 64 year old age group. This is 5.0 times the peak U.S. All Races male rate (36.4) and 5.5 times the peak U.S. White male rate (33.1), which both occur for the 55 to 64 age group. The rate for Indian females in this age group (86.2) is less than half the Indian male rate, but is over 9 times the highest rate for U.S. All Races females (9.5) and over 10 times that for White females (8.6) (both for ages 55 to 64). Even for persons exceeding 64 years of age, the Indian rates are relatively high. These Indian rates have been adjusted for misreporting of Indian race on state death certificates.

Drug abuse is less of a problem for Indian elders than that of alcohol abuse. The age-specific drug-related death rates are similar for Indian elder males and females. The age-specific drug-related death rates for Indian elders are also similar to those for U.S. All Races and White elders. These Indian rates have been adjusted for misreporting of Indian race on state death certificates.

Accident and homicide deaths are more likely and suicide deaths are less likely among Indian elders compared to elders in the U.S. general population. For these causes, Indian male elders are at greater risk than Indian female elders. For example, Indian male elders have a greater chance of dying from accidents than Indian female elders; the male death rates range from 1.3 to 2.7 times as great as the female rates. In comparison to U.S. All Races and White male elders, the Indian male death rates are higher except for the age group, 85 years and over. Indian elders aged 75 to 84 years have a homicide death rate almost triple

that for U.S. All Races elders in this age group. Within the Indian population, males aged 55 to 64 years are nearly 19 times as likely to die from homicide than the corresponding group of females. Suicide deaths are relatively low for Indian females compared to Indian males in age groups 55 and over. U.S. All Races and White females have slightly higher suicide death rates for these age groups than Indian females, but their rates are considerably less than the corresponding rates for males in the Indian, U.S. All Races, and White populations. Indian male elders, though, are less likely to die from suicide than U.S. All Races and White male elders. These Indian rates have been adjusted for misreporting of Indian race on state death certificates.

The likelihood of dying from diabetes mellitus, diseases of the heart, or cerebrovascular diseases for the most part increases with age for the elder population. Indian elders die from diabetes mellitus at greater rates than elders in the U.S. All Races and White populations, however, the gaps decrease with age. Indian elders have a higher death rate for diseases of the heart than elders in the U.S. All Races and White populations for age groups 55 through 74 years. The Indian rate is less, however, for the other elder age groups in comparison to these two populations. Indian elders die from cerebrovascular diseases at higher rates than elders in the U.S. All Races and White populations for age groups 55 to 74 years. For older age groups, U.S. All Races and White elders are more likely to die from this cause than Indian elders. These Indian rates have been adjusted for misreporting of Indian race on state death certificates.



Summary of Data Shown

Malignant neoplasms is a cause of death more prevalent among elders than any other age group. However, Indian elders are less likely to die from malignant neoplasms than elders in the U.S. All Races and White populations. Within the Indian population, male elders have a greater chance of dying from malignant neoplasms than female elders. These Indian rates have been adjusted for misreporting of Indian race on state death certificates.

The top five leading sites for cancer deaths among Indian elders are trachea, bronchus, and lung; colon; prostate; female breast; and liver. Elders in the U.S. All Races and White populations have the same top four leading sites in the same order, except that the order for prostate and female breast cancer deaths is reversed for U.S. White elders. The fifth leading site for the All Races and White populations is pancreas. However, elders in the U.S. All Races and White populations have much higher pancreatic cancer death rates than Indian elders. In contrast to the first five sites, Indian elder cancer death rates for Indian sites 7 and 8 (stomach and kidney) exceed the corresponding U.S. All Races and White rates. These Indian counts and rates are adjusted for misreporting of Indian race on state death certificates.

The likelihood of a man dying from prostate cancer increases with age. The Indian rate is somewhat higher than the rates in the U.S. All Races and White populations for the age group 55 to 64 years. However for the older age groups, the Indian rate ranges from 7 percent to 55 percent less than the comparable rates in these two populations. These Indian rates have been adjusted for misreporting of Indian race on state death certificates.

Indian elders, as is true for elders in the general population, are relatively high users of health resources. For example, Indians over 64 years of age comprise 5.8 percent of the IHS user population but consume considerably higher percentages of IHS health services, i.e., 11.4 percent of the ambulatory medical clinical impressions, 16.3 percent of the inpatient discharges, and 23.0 percent of the inpatient days. However, Indian elders receive health services at lower rates than their counterparts in the general population. Again looking at persons over 64 years of age, the IHS hospital discharge rate (167.3 discharges per 1,000 population) is less than half of the U.S. rate (361.1).

Circulatory system diseases is the leading cause of hospitalization for elders, 55 to 64 years, in IHS and Tribal direct and contract general hospitals. For those 65 years and older, the leading cause is respiratory system diseases. The second leading cause of hospitalization is digestive system diseases for those 55 to 64 years of age, whereas it is circulatory system diseases for patients 65 years and older.



Sources and Limitations of Data

POPULATION STATISTICS

The IHS service population consists of American Indians and Alaska Natives identified to be eligible for IHS services. IHS service population estimates are based on official U.S. Bureau of the Census county data. The Census Bureau enumerates those individuals who identify themselves as being American Indian, Eskimo or Aleut. The IHS service population is estimated by counting those American Indians, Eskimos, and Aleuts (as identified during the census) who reside in the geographic areas in which IHS has responsibilities ("on or near" reservations, i.e., contract health service delivery areas). These people may or may not use IHS services.

IHS service populations between census years (e.g., 1980 and 1990) are estimated by a smoothing technique in order to show a gradual transition between census years. IHS service populations beyond the latest census year (1990) are projected through linear regression techniques, using the most current 10 years of Indian birth and death data provided by the National Center for Health Statistics. The natural change (estimated number of births minus estimated number of deaths) is applied to the latest census enumeration.

IHS user population estimates are based on data from the IHS Patient Registration System. Patients who receive direct or contract health services from IHS or Tribally-operated programs are registered in the Patient Registration System. Those registered Indian patients that had at least one direct or contract

inpatient stay, ambulatory medical visit, or dental visit during the last 3 years are defined as users. IHS user population figures are used for calculating IHS patient care rates. In contrast, IHS service population figures are used in calculating Indian vital event rates since State birth and death certificates do not provide information on use of IHS services.

The social and economic data contained in this publication are from the 1990 census. They reflect the characteristics of persons that self-identified as American Indian, Eskimo, or Aleut during the census.

VITAL EVENT STATISTICS

American Indian and Alaska Native vital event statistics are derived from data furnished annually to the IHS by the National Center for Health Statistics (NCHS). Vital event statistics for the U.S. population were derived from data appearing in various NCHS publications, as well as from some unpublished data from NCHS. NCHS obtains birth and death records for all U.S. residents from the State departments of health, based on information reported on official State birth and death certificates. The records NCHS provides IHS contain the same basic demographic items as the vital event records maintained by NCHS for all U.S. residents, but with names, addresses, and record identification numbers deleted. It should be noted that Tribal identity is not recorded on these records. Tabulations of vital events for this publication are by place of residence.



Sources and Limitations of Data

It is known that there is misreporting of Indian race on State death certificates, especially in areas distant from traditional Indian reservations. In order to determine the degree and scope of the misreporting, IHS conducted a study utilizing the National Death Index (NDI) maintained by the NCHS. The study involved matching IHS patient records of those patients who could have died during 1986 through 1988 with all death records of U.S. residents for 1986 through 1988 as contained on the NDI. The results were published in a document entitled, *Adjusting for Miscoding of Indian Race on State Death Certificates*, November 1996. The study revealed that on 10.9 percent of the matched IHS-NDI records, the race reported for the decedent was other than American Indian or Alaska Native. The percentage of records with inconsistent classification of race ranged from 1.2 percent in the Navajo Area to 28.0 and 30.4 percent in the Oklahoma and California Areas, respectively.

The results of the NDI study provide sufficient numbers to calculate adjustments for each IHS Area, IHS overall, and selected age groups. In addition to these adjustments based on the study findings, IHS assumed the following; a) the results from 1986-88 apply to other years, b) IHS age-group adjustments applied also to each Area, and c) the Area adjustments applied to the causes of death used in this publication (i.e., if an Area's total deaths needed to be increased by 10 percent, than the deaths for each cause of death would also increase by this same rate). These assumptions cannot be statistically supported by the results of the study. However, IHS felt that it was necessary to adjust all of the death rates in this publication to provide a meaningful and comprehensive look at health status. IHS also believes that they are reasonable adjustments.

These NDI adjustments were used for the first time in the 1997 edition of this publication. Both unadjusted and adjusted information is shown, as applicable. The adjustments were applied to the results obtained from using an unadjusted death file.

PATIENT CARE STATISTICS

Patient care statistics are derived from IHS reporting systems. There are four main patient care reporting systems. The Monthly Inpatient Services Report is a patient census report that is prepared by each IHS hospital. It indicates the number of discharges and days by type of service (e.g., adult, pediatric, obstetric, newborn), and is used for the direct inpatient workload statistics. The Inpatient Care System is the source of IHS hospital inpatient data pertaining to various patient characteristics (age, sex, principal diagnoses, other diagnoses, community of residence, etc.). The data are collected daily, one record per discharge. The Contract Care System is the source of similar contract hospital inpatient data.

The Ambulatory Patient Care System is the source of data pertaining to the number of ambulatory medical visits at IHS facilities by various patient characteristics (age, sex, clinical impression, community of residence, etc.). The data are collected daily, one record per ambulatory medical visit. The Contract Care System is the source of similar contract ambulatory medical visit data.



Sources of Additional Information

Additional Indian health status information can be obtained from the IHS Program Statistics Team. Specific responsibilities are as follows:

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This publication, other IHS statistical publications, and additional IHS statistical information are available on the IHS Program Statistics Team Web Site at:

http://www.ihs.gov/NonMedicalPrograms/IHS_Stats/

Charts and Tables

CHART 1

Population by Age, 1990

The proportion of elders (i.e., age 55 and over) in the Indian population is considerably smaller than the corresponding proportion in the general population. According to the 1990 census, the elderly comprise 11 percent of the Indian population, but 21 percent of the U.S. All Races population and 23 percent of the U.S. White population. The age group 75 years and over is 2 percent of the Indian population and 5 and 6 percent of the U.S. All Races and White populations, respectively.

Percent of Total

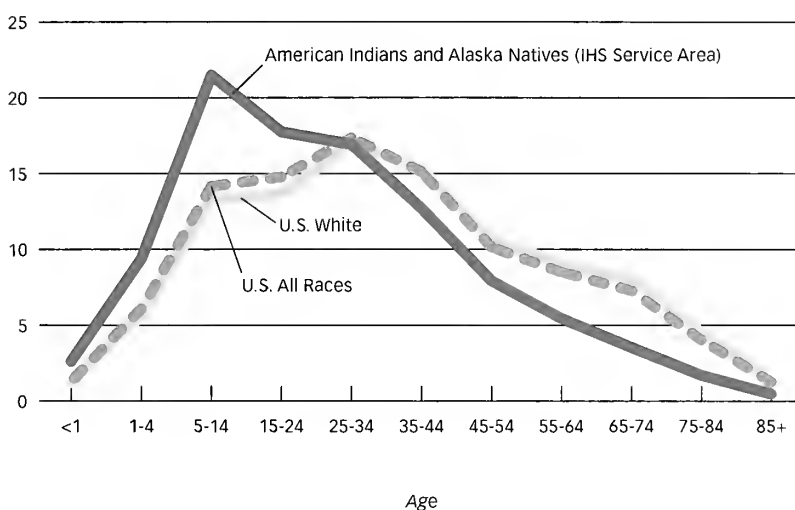


TABLE 1

Percent

Age Distribution

Age Group	American Indian and Alaska Native ¹	U.S. All Races	U.S. White
All Ages	100.000	100.000	100.000
Under 1 year	2.616	1.294	1.204
1-4 years	9.390	6.086	5.631
5-9 years	11.239	7.277	6.819
10-14 years	10.251	6.881	6.437
15-19 years	9.470	7.138	6.682
20-24 years	8.286	7.647	7.273
25-29 years	8.729	8.569	8.332
30-34 years	8.198	8.791	8.690
35-39 years	6.971	8.027	8.053
40-44 years	5.740	7.083	7.265
45-49 years	4.353	5.578	5.802
50-54 years	3.577	4.564	4.760
55-59 years	2.965	4.235	4.491
60-64 years	2.485	4.268	4.613
65-69 years	2.077	4.066	4.457
70-74 years	1.466	3.215	3.569
75-79 years	1.090	2.461	2.747
80-84 years	0.619	1.582	1.779
85 years & over	0.478	1.238	1.396
Median Age	24.2 years	32.9 years	34.4 years

¹ Based upon data from the 1990 Census modified age, race, and sex file, and current IHS service area boundaries. Percentage point distributions were adjusted for error due to rounding. More recent population estimates for the American Indian and Alaska Native population by age and sex are unavailable at the county level. As a result, IHS service area estimates by age and sex, which need to be based on county level data, could not be prepared.

CHART 2

Trend in Number of Elders in IHS Service Population

In FY 1990, there were about 135,000 elders in the IHS service population. That number has risen to about 166,000 in FY 1999. By the year 2005, the number of elders is expected to be about 183,000. The largest age group within the elder population is for persons 55 to 59 years of age. They consist of about 44,000 individuals in FY 1999.

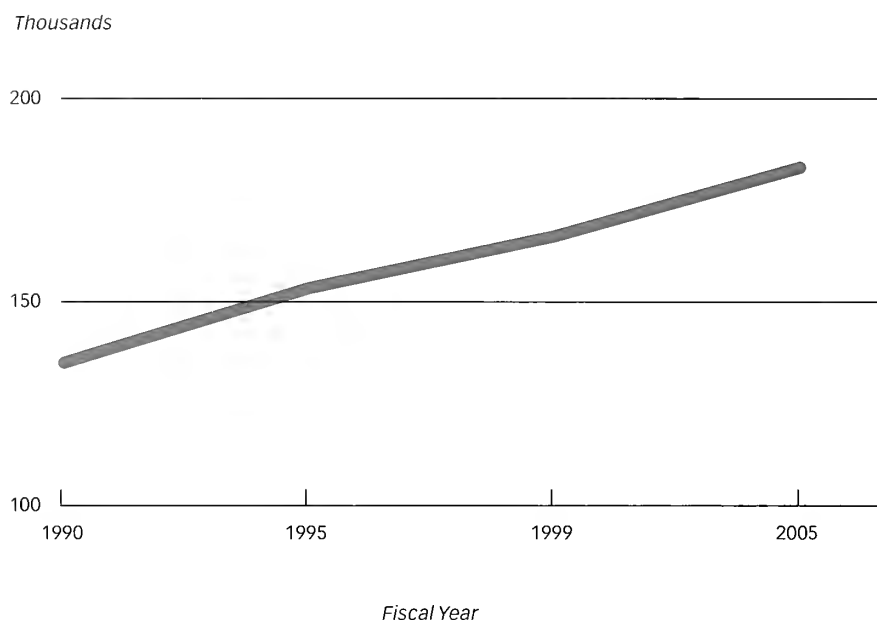


TABLE 2

Trend in Number of Elders in IHS Service Population

Age Group	1990	1995	1999	2005
ALL AGES	1,207,236	1,371,448	1,485,508	1,636,592
ALL ELDER	134,969	153,328	166,080	182,971
55-59	35,795	40,663	44,045	48,525
60-64	30,000	34,080	36,915	40,669
65-69	25,074	28,485	30,854	33,992
70-74	17,698	20,105	21,778	23,992
75-79	13,159	14,949	16,192	17,839
80-84	7,473	8,489	9,195	10,131
85+	5,771	6,556	7,101	7,823

CHART 3

Income Status in 1989, American Indians and U.S. All Races, 1990 Census

Indian elders have a lower economic status than elders in the general U.S. population. According to the 1990 Census, the median household income in 1989 for Indians was \$19,897, for U.S. All Races it was \$30,056 and for U.S. Whites it was \$31,435. The 1990 Census showed that 31.6 percent of Indians of all ages live below the poverty level in contrast to 13.1 and 9.8 percent for the U.S. All Races and White populations, respectively. For 65 to 74 year old persons, the corresponding percentages are 26.9, 10.4, and 8.4. For 75 years and older, the corresponding percentages are 33.3, 16.5, and 14.6.

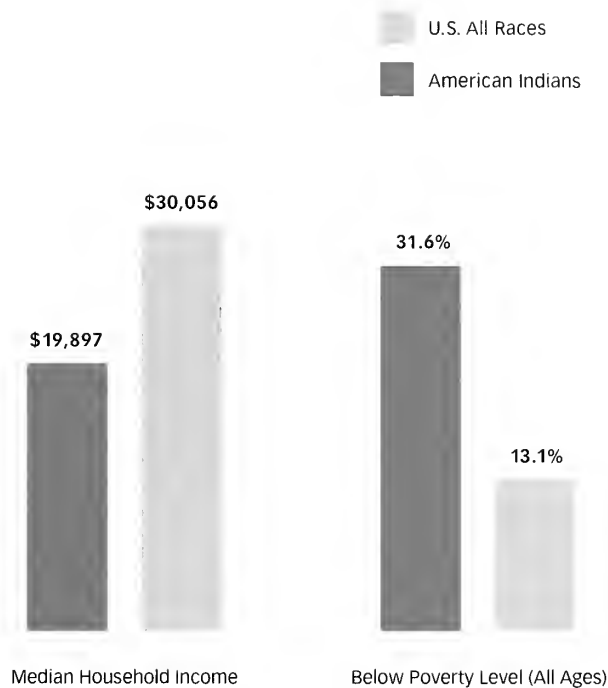


TABLE 3

Selected Economic Profiles for the United States, 1990 Census

	American Indian & Alaska Native	All Races	White	Black	Asian & Pacific Islander	Hispanic
Educational Attainment						
(Persons 25 years and older):						
Percent less than 9th grade	14.1	10.4	8.9	13.8	12.9	30.7
Percent 9th to 12th grade, no diploma	20.6	14.4	13.1	23.2	9.5	19.5
Percent high school grad or higher	65.3	75.2	77.9	63.1	77.5	49.8
Percent bachelor's degree or higher	8.9	20.3	21.5	11.4	36.6	9.2
Employment Status by Sex						
(Civilian Persons 16 years and older):						
Percent unemployed, males	16.2	6.4	5.3	13.7	5.1	9.8
Percent unemployed, females	13.4	6.2	5.0	12.2	5.5	11.2
Household Income in 1989						
Median household income	\$ 19,897	\$ 30,056	\$ 31,435	\$ 19,758	\$ 36,784	\$ 24,156
Percent Below the Poverty Level by Age						
All ages	31.6	13.1	9.8	29.5	14.1	25.3
Under 5 years	43.1	20.1	13.8	44.0	17.5	33.4
5 years	41.6	19.7	13.6	42.8	18.0	33.9
6 to 11 years	37.7	18.3	12.5	39.8	17.3	32.6
12 to 17 years	33.1	16.3	11.0	35.5	16.3	30.3
18 to 64 years	27.7	11.0	8.5	23.4	13.0	21.3
65 to 74 years	26.9	10.4	8.4	28.6	11.3	21.9
75 years and older	33.3	16.5	14.6	37.3	13.5	27.8

Note: American Indian data are for residents of the 35 Reservation States.

(South Carolina was added as a Reservation State in FY 1994. Indiana was added as a Reservation State in 1995.)

Source: U.S. Bureau of the Census, Minority Economic Profiles, July 24, 1992, Tables CPH-L-92, 93, 94, and unpublished data from the U.S. Bureau of the Census.

CHART 4.1

Death by Age

Indians die at relatively younger ages than the general U.S. population, i.e., the Indian population has proportionately less deaths in the older age groups. Thirty-three percent of Indian deaths pertain to ages 55 to 74, 17 percent to ages 75 to 84, and 10 percent to ages 85 and over. For the U.S. All Races population, these percentages are 31, 28, and 24 and for U.S. Whites, they are 31, 30, and 26. These Indian rates have been adjusted for misreporting of Indian race on state death certificates.

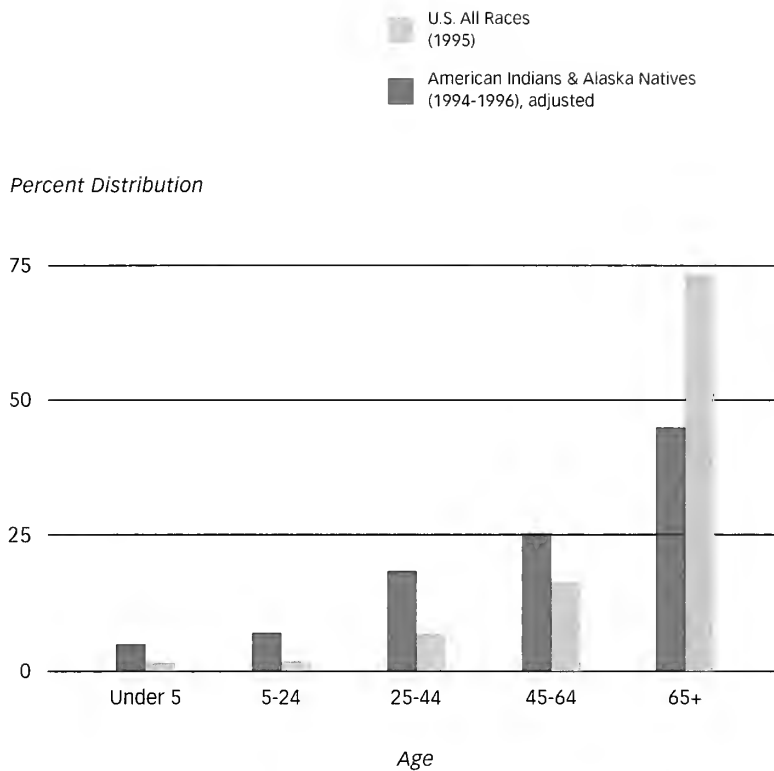


CHART 4.2

Deaths by Age and Sex, Indians and Alaska Natives (1994-96)

Indian males die at relatively younger ages than Indian females. Thirty-two percent of Indian male deaths pertain to ages 55 to 74 compared to 33 percent for Indian females. The percentage of deaths pertaining to ages 75 to 84 is 15 for Indian males and 20 for Indian females. For the age group 85 and over, the corresponding percentages are 7 and 14. These Indian rates have been adjusted for misreporting of Indian race on state death certificates.

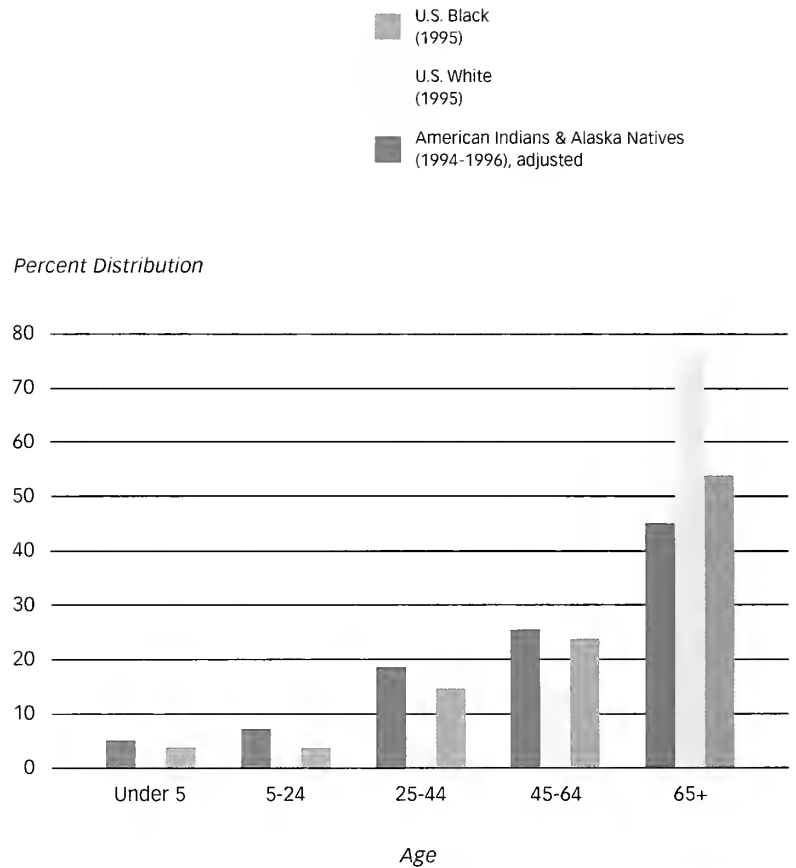


TABLE 4**Number and Percent Distribution of Deaths by Age and Sex**

American Indians and Alaska Natives, IHS Service Area, 1994-1996, and Selected U.S. Populations, 1995

American Indian and Alaska Native												
Age Group	Both Sexes				Male				Female			
	Number		Percent		Number		Percent		Number		Percent	
	Actual	Adj ¹	Actual	Adj ¹	Actual	Adj ¹	Actual	Adj ¹	Actual	Adj ¹	Actual	Adj ¹
All Ages	22,143	25,304	100.0	100.0	12,452	14,185	100.0	100.0	9,691	11,119	100.0	100.0
Under 1 year	753	922	3.4	3.6	395	492	3.2	3.5	358	430	3.7	3.9
1 to 4	297	353	1.3	1.4	166	197	1.3	1.4	131	156	1.4	1.4
5 to 14	329	366	1.5	1.4	195	216	1.6	1.5	134	150	1.4	1.3
15 to 24	1,191	1,433	5.4	5.7	895	1,029	7.2	7.3	296	404	3.1	3.6
25 to 34	1,712	2,003	7.7	7.9	1,208	1,368	9.7	9.6	504	635	5.2	5.7
35 to 44	2,136	2,432	9.6	9.6	1,436	1,597	11.5	11.3	700	835	7.2	7.5
45 to 54	2,453	2,798	11.1	11.1	1,496	1,683	12.0	11.9	957	1,115	9.9	10.0
55 to 64	3,132	3,616	14.1	14.3	1,807	2,072	14.5	14.6	1,325	1,544	13.7	13.9
65 to 74	4,032	4,629	18.2	18.3	2,164	2,489	17.4	17.5	1,868	2,140	19.3	19.2
75 to 84	3,705	4,252	16.7	16.8	1,781	2,079	14.3	14.7	1,924	2,173	19.9	19.5
85 and over	2,390	2,487	10.8	9.8	900	954	7.2	6.7	1,490	1,533	15.4	13.8
Age not stated	13	13	0.1	0.1	9	9	0.1	0.1	4	4	0.0	0.0
United States												
Age Group	All Races		White		Black							
Number of Deaths,												
All Ages	2,312,132		1,987,437		286,401							
Percent Distribution,												
All Ages	100.0		100.0		100.0							
Under 1	1.3		0.6		3.2							
1 to 4	0.3		0.2		0.6							
5 to 14	0.4		0.3		0.7							
15 to 24	1.5		1.2		3.0							
25 to 34	2.5		2.0		5.4							
35 to 44	4.4		3.7		9.2							
45 to 54	6.2		5.5		10.3							
55 to 64	10.2		9.6		13.5							
65 to 74	20.8		20.9		20.1							
75 to 84	28.2		29.5		20.0							
85 and over	24.3		26.0		13.8							
Age not stated	0.0		0.0		0.0							

¹ Adjusted to compensate for misreporting of Indian race on death certificates.

Note: 0.0 rounds to zero.

CHART 5

Age-Specific Death Rates, Ratio of Indians and Alaska Natives (1994-1996) to U.S. All Races (1995)

Indian age-specific death rates are greater than those for the U.S. All Races and White populations for all age groups except 85 years and over. For the 55 to 64 year age group, the Indian rate is 1.5 times the U. S. All Races and White rates. The Indian rate is 1.2 times the U.S. All Races rate and 1.3 times the White rate for persons 65 to 74 years old. The Indian rate is 1.0 times the rate of U.S. All Races and White for the 75 to 84 year old group. The Indian rate is 0.8 times the rates of these other two populations for age group 85 years and older. These Indian rates are adjusted for misreporting of Indian race on state death certificates.

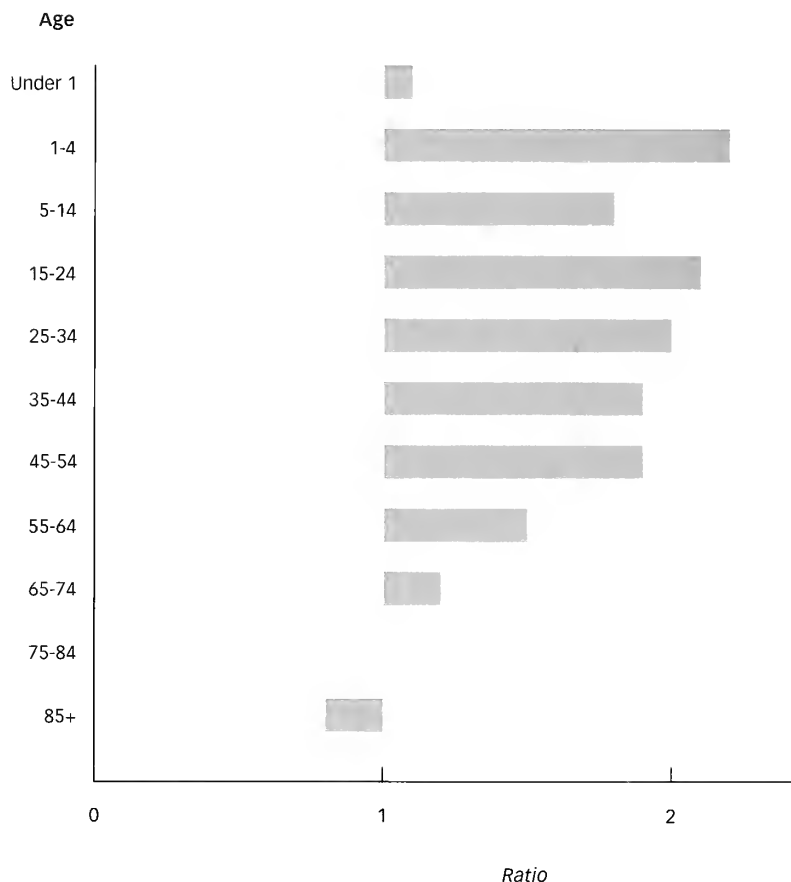


TABLE 5**Age-Specific Death Rates**

American Indians and Alaska Natives, IHS Service Area, 1994-1996, and Selected U.S. Populations, 1995
(Rate per 100,000 Population)

Age Group	American Indian & Alaska Native				U.S. Rate			Ratio ¹ of American Indian & Alaska Native to:	
	Number		Rate		All Races	White	Black	U.S. All Races	U.S. White
	Actual	Adj ¹	Actual	Adj ¹					
Under 1	753	922	699.1	856.0	768.8	646.5	1,467.9	1.1	1.3
1-4	297	353	76.8	91.3	40.6	35.1	70.3	2.2	2.6
5-14	329	366	37.2	41.4	22.5	20.6	33.4	1.8	2.0
15-24	1,191	1,433	163.3	196.5	95.3	84.3	159.8	2.1	2.3
25-34	1,712	2,003	246.2	288.0	141.3	121.5	284.9	2.0	2.4
35-44	2,136	2,432	409.4	466.2	240.8	207.0	511.3	1.9	2.3
45-54	2,453	2,798	754.1	860.2	460.1	413.0	915.3	1.9	2.1
55-64	3,132	3,616	1,400.9	1,617.4	1,114.5	1,049.1	1,823.2	1.5	1.5
65-74	4,032	4,629	2,777.2	3,188.5	2,563.5	2,495.3	3,568.2	1.2	1.3
75-84	3,705	4,252	5,291.6	6,072.9	5,851.8	5,801.4	6,911.1	1.0	1.0
85+	2,390	2,487	12,207.0	12,702.4	15,469.5	15,616.3	14,413.3	0.8	0.8

¹Adjusted to compensate for misreporting of Indian race on death certificates.

CHART 6

Life Expectancy at Birth

Although Indians do not live on average as long as persons in the general population, Indian life expectancy has shown dramatic increases since the early 1970's. Indian life expectancy at birth has increased 15 percent between 1972-74 and 1994-96, i.e., from 63.5 years to 73.2 years. The 1994-1996 Indian life expectancy is 2.6 years less than the U.S. All Races life expectancy of 75.8 for 1995 and 3.3 less than that for U.S. Whites (76.5, 1995). These Indian life expectancies are adjusted for misreporting of Indian race on state death certificates.

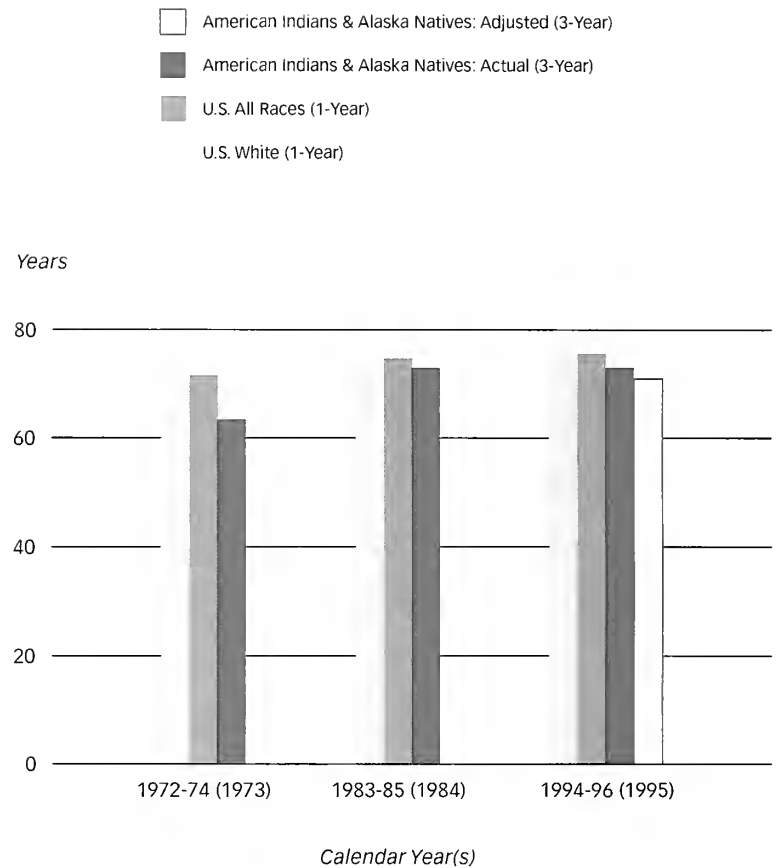


TABLE 6**Overall Measures of Indian Health****IHS Service Area Population Compared with the U.S. All Races and White Populations**

	Life Expectancy At Birth (Years)		Years of Potential Life Lost (Rate per 1,000 Population ¹)		Age-Adjusted Death Rate (per 100,000 Population)	
	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted
IHS Service Area:						
1994-1996	73.2	71.1	78.1	91.5	609.8	699.3
1983-1985	72.9	NA	94.9	NA	620.9	NA
1972-1974	63.5	NA	188.3	NA	1,007.4	NA
U.S. All Races						
1995	75.8		53.7		503.9	
1984	74.7		56.6		545.9	
1973	71.4		78.9		692.9	
U.S. White						
1995	76.5		47.2		476.9	
1984	75.3		51.4		523.6	
1973	72.2		70.8		659.3	
Ratio: IHS to U.S. All Races:						
1994-1996 (1995)	0.97	0.94	1.45	1.70	1.21	1.39
1983-1985 (1984)	0.98	NA	1.67	NA	1.14	NA
1972-1974 (1973)	0.85	NA	2.39	NA	1.45	NA
Ratio: IHS to U.S. White:						
1994-1996 (1995)	0.96	0.93	1.65	1.94	1.28	1.47
1983-1985 (1984)	0.97	NA	1.84	NA	1.19	NA
1972-1974 (1973)	0.84	NA	2.66	NA	1.53	NA

Adjusted—specifies a number, rate, or ratio of rates adjusted to compensate for misreporting of Indian race on death certificates.

¹ Sum of years of age below age 65 that decedents died divided by the total resident population younger than 65 years of age.

Note: NA—Adjusted mortality data for the IHS Service Area population not available for 1972-1974 or for 1983-1985.

CHART 7

Death Rates, Leading Causes: Ages 55 to 64 Years

The leading causes of death for the age group 55 to 64 years vary considerably between the Indian population and the general U.S. population. For Indians, the top two causes are diseases of the heart and malignant neoplasms; the order is reversed for U.S. All Races and Whites. The third and fourth leading causes for Indians are diabetes mellitus and chronic liver disease and cirrhosis, while for U.S. All Races and Whites, they are chronic obstructive pulmonary diseases and cerebrovascular diseases. These Indian rates have been adjusted for misreporting of Indian race on state death certificates.

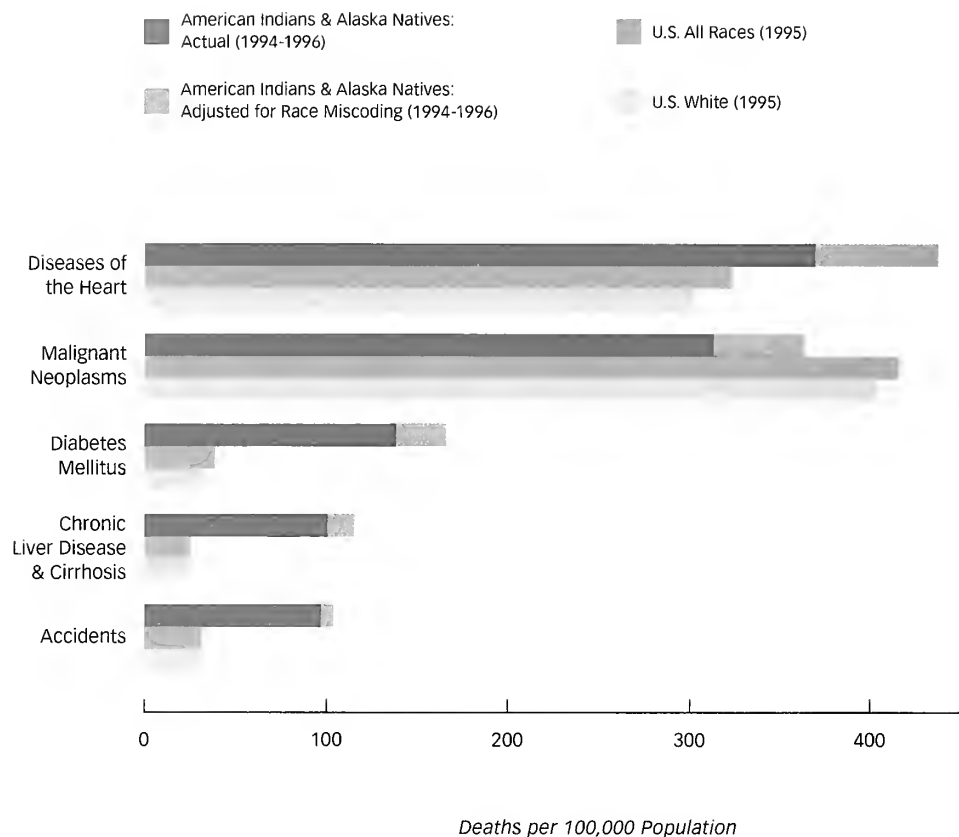


TABLE 7**Ten Leading Causes of Death for Decedents 55 to 64 Years of Age**

American Indians and Alaska Natives, IHS Service Area, 1994-1996, and U.S. All Races and White Populations, 1995
(Rate per 100,000 Population)

Cause of Death	American Indian & Alaska Native Number		Rate		U.S. All Races Rate	U.S. White Rate	Ratio ¹ of American Indian & Alaska Native to:	
	Actual	Adj ¹	Actual	Adj ¹			U.S. All Races	U.S. White
All Causes	3,132	3,616	1,401.0	1,617.5	1,114.5	1,049.1	1.5	1.5
Diseases of the heart	826	982	369.5	439.2	324.1	303.9	1.4	1.4
Malignant neoplasms	701	815	313.6	364.5	416.4	404.7	0.9	0.9
Diabetes mellitus	309	375	138.2	167.7	38.8	32.6	4.3	5.1
Chronic liver disease and cirrhosis	225	257	100.6	115.0	25.4	24.5	4.5	4.7
Accidents	217	234	97.0	104.7	31.9	30.4	3.3	3.4
Motor vehicle	95	104	42.5	46.5	14.6	14.4	3.2	3.2
Other accidents	122	130	54.6	58.2	17.3	16.0	3.4	3.6
Cerebrovascular diseases	106	117	47.4	52.3	46.2	39.0	1.1	1.3
Chronic obstructive pulmonary diseases and allied conditions	75	85	33.5	38.0	47.3	48.6	0.8	0.8
Pneumonia and influenza	70	74	31.3	33.1	9.9	14.7	3.3	2.3
Nephritis, nephrotic syndrome, and nephrosis	45	47	20.1	21.0	8.2	6.4	2.6	3.3
Septicemia	32	34	14.3	15.2	8.2	6.8	1.9	2.2
All other causes	526	596						

¹Adjusted to compensate for misreporting of Indian race on death certificates.

Note: Causes of death are listed based upon the order of adjusted number of deaths.

CHART 8

Death Rates, Leading Causes: Ages 65+ Years

Indians aged 65 years and over tend to die of the same causes, although at different rates, as this age group in the general U.S. population. The top two leading causes of death are the same for Indians, U.S. All Races, and U.S. Whites 65 years and older—diseases of the heart and malignant neoplasms. The third and fourth leading cause differs among these groups. For Indians, they are diabetes mellitus and cerebrovascular diseases, respectively. For the U.S. All Races and White populations, they are cerebrovascular diseases and chronic obstructive pulmonary diseases and allied conditions, respectively. These Indian rates have been adjusted for misreporting of Indian race on state death certificates.

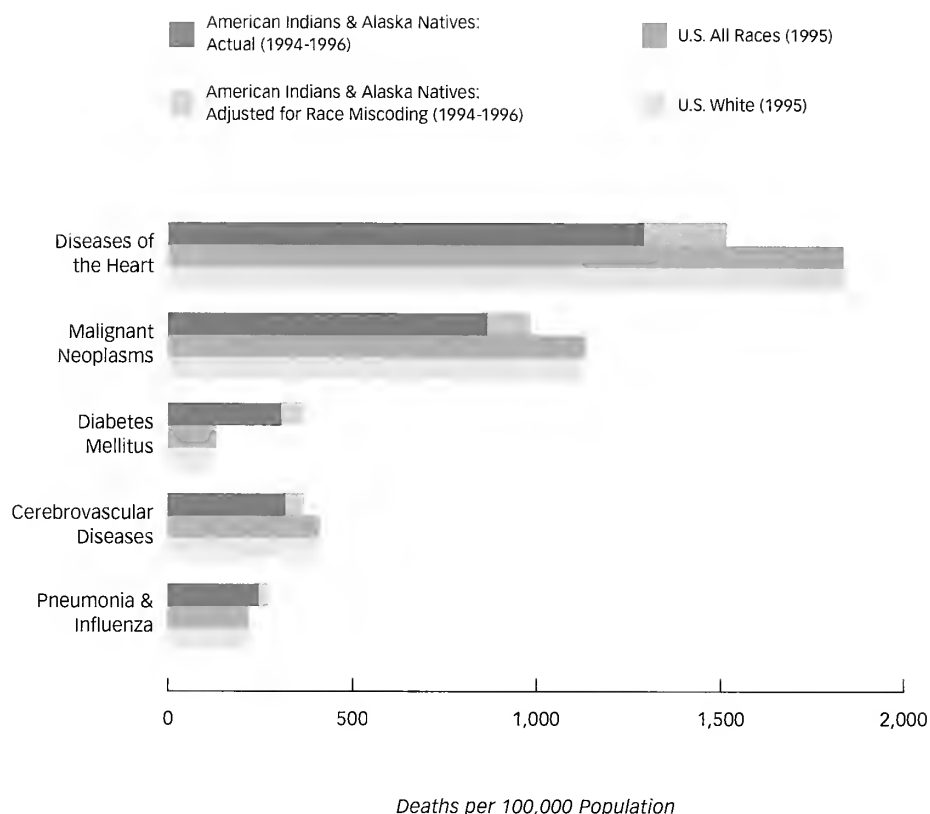


TABLE 8**Ten Leading Causes of Death for Decedents 65 Years Old and Older**

American Indians and Alaska Natives, IHS Service Area, 1994-1996, and U.S. All Races and White Populations, 1995
(Rate per 100,000 Population)

Cause of Death	American Indian & Alaska Native Number		Rate		U.S. All Races Rate	U.S. White Rate	Ratio ¹ of American Indian & Alaska Native to:	
	Actual	Adj ¹	Actual	Adj ¹			U.S. All Races	U.S. White
All Causes	10,127	11,368	4,313.6	4,842.2	5,052.8	5,049.3	1.0	1.0
Diseases of the heart	3,036	3,527	1,293.2	1,502.3	1,837.4	1,843.7	0.8	0.8
Malignant neoplasms	2,036	2,296	867.2	978.0	1,137.2	1,129.4	0.9	0.9
Diabetes mellitus	722	831	307.5	354.0	132.7	122.5	2.7	2.9
Cerebrovascular diseases	750	829	319.5	353.1	414.2	410.0	0.9	0.9
Pneumonia and influenza	580	622	247.1	264.9	221.7	224.5	1.2	1.2
Chronic obstructive pulmonary diseases and allied conditions	451	495	192.1	210.8	263.9	276.0	0.8	0.8
Accidents	277	289	118.0	123.1	86.8	87.0	1.4	1.4
Motor vehicle	80	83	34.1	35.4	22.7	22.8	1.6	1.6
Other accidents	197	206	83.9	87.7	64.0	64.1	1.4	1.4
Nephritis, nephrotic syndrome, and nephrosis	197	216	83.9	92.0	60.2	56.3	1.5	1.6
Chronic liver disease and cirrhosis	162	177	69.0	75.4	30.5	31.2	2.5	2.4
Septicemia	140	149	59.6	63.5	50.4	46.9	1.3	1.4
All other causes	1,776	1,937						

¹ Adjusted to compensate for misreporting of Indian race on death certificates.

Note: Causes of death are listed based upon the order of adjusted number of deaths.

CHART 9

Alcoholism Death Rates by Age and Sex, Indians and Alaska Natives (1994-96)

Alcohol abuse is a serious problem among Indian elders. The highest alcoholism age-specific death rate for Indian males (182.6 deaths per 100,000 population) occurs for the 55 to 64 year old age group. This is 5.0 times the peak U.S. All Races male rate (36.4) and 5.5 times the peak U.S. White male rate (33.1), which both occur for the 55 to 64 age group. The rate for Indian females in this age group (86.2) is less than half the Indian male rate, but is over 9 times the highest rate for U.S. All Races females (9.5) and over 10 times that for White females (8.6) (both for ages 55 to 64). Even for persons exceeding 64 years of age, the Indian rates are relatively high. For age groups 65 years and over, the Indian male rates (144.9, 71.0, and 41.8) range from 3.3 to 4.7 times the corresponding U.S. All Races and White rates. For age groups 65 to 84, the Indian female rates (56.8 and 16.7) range from 3.4 to 7.5 times the rates for these U.S. groups. The Indian female rate is zero for ages 85 and over. These Indian rates are adjusted for misreporting of Indian race on state death certificates.

Per 100,000 Population

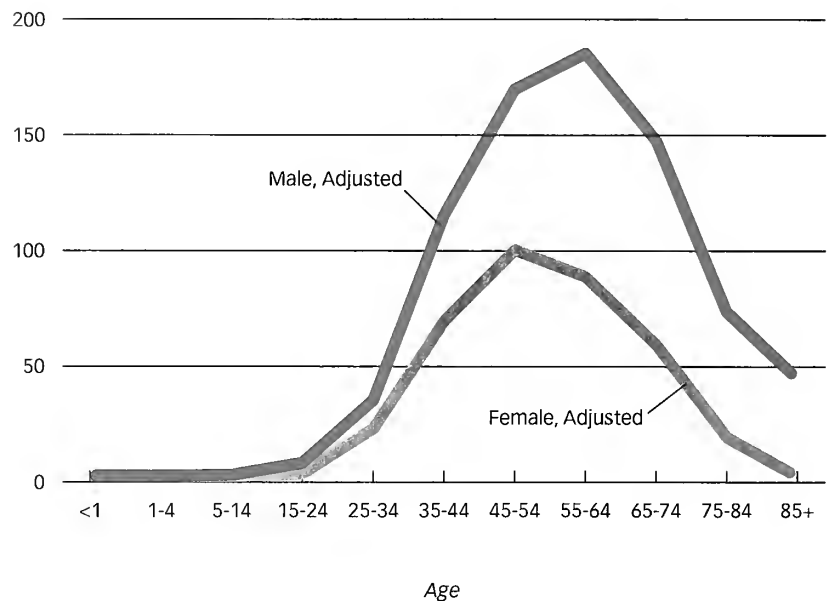


TABLE 9**Alcoholism Death Rates by Age and Sex**

American Indians and Alaska Natives, IHS Service Area, 1994-1996, and U.S. All Races and White Populations, 1995
(Rate per 100,000 Population)

American Indian and Alaska Native						
Age Group	Both Sexes		Male		Female	
	Actual	Adj ¹	Actual	Adj ¹	Actual	Adj ¹
Under 1 year	—	—	—	—	—	—
1-4 years	—	—	—	—	—	—
5-14 years	0.2	0.2	0.4	0.4	—	—
15-24 years	3.2	3.4	5.4	5.6	0.8	1.1
25-34 years	24.0	26.5	30.9	32.6	17.5	20.6
35-44 years	76.7	89.1	99.9	112.6	54.9	67.2
45-54 years	109.8	131.0	143.9	167.1	78.4	97.8
55-64 years	109.6	131.1	151.9	182.6	72.8	86.2
65-74 years	84.0	95.7	126.2	144.9	50.6	56.8
75-84 years	34.3	38.6	60.4	71.0	16.7	16.7
85 years +	15.3	15.3	41.8	41.8	—	—
U.S. All Races						
Age Group	Both Sexes		Male		Female	
Under 1 year	0.1		0.1		0.1	
1-4 years	—		—		—	
5-14 years	0.0		0.0		0.0	
15-24 years	0.3		0.5		0.1	
25-34 years	2.1		3.0		1.1	
35-44 years	9.8		14.8		4.9	
45-54 years	17.5		27.9		7.5	
55-64 years	22.3		36.4		9.5	
65-74 years	19.0		32.6		8.1	
75-84 years	11.1		20.8		4.9	
85 years +	5.3		12.7		2.4	
U.S. White						
Age Group	Both Sexes		Male		Female	
Under 1 year	0.1		0.1		0.2	
1-4 years	—		—		—	
5-14 years	0.0		0.0		—	
15-24 years	0.3		0.4		0.1	
25-34 years	1.9		2.8		1.0	
35-44 years	8.9		13.6		4.1	
45-54 years	15.7		25.0		6.6	
55-64 years	20.4		33.1		8.6	
65-74 years	17.9		30.6		7.6	
75-84 years	10.9		20.5		4.8	
85 years +	5.0		12.0		2.3	

¹ Adjusted to compensate for misreporting of Indian race on death certificates.

Note: — Represents zero. 0.0 rounds to zero.

CHART 10

Drug-Related Death Rates by Age and Sex, Indians and Alaska Natives (1994-96)

Drug abuse is less of a problem for Indian elders than that of alcohol abuse. The age-specific drug-related death rates are similar for Indian elder males and females. The age and sex specific drug-related death rates for Indian elders are also similar to those for U.S. All Races and White elders. However, these Indian age and sex specific death rates need to be interpreted with caution since they are based on a small number of deaths. The highest U.S. All Races and White elder drug-related death rates occur in the 85 and over age group, while the Indian rates for this age group are zero. These Indian rates are adjusted for misreporting of Indian race on state death certificates.

Per 100,000 Population

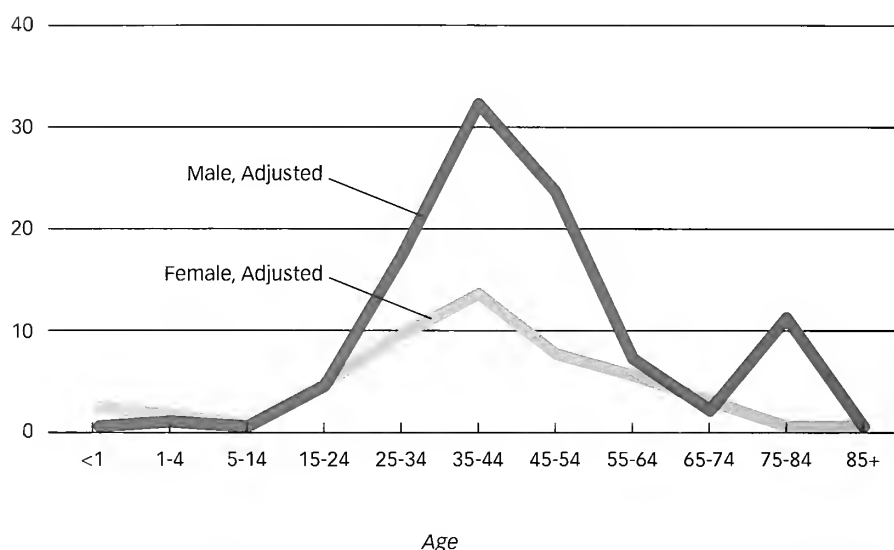


TABLE 10**Drug-Related Death Rates by Age and Sex**

American Indians and Alaska Natives, IHS Service Area, 1994-1996, and U.S. All Races and White Populations, 1995
(Rate per 100,000 Population)

American Indian and Alaska Native						
Age Group	Both Sexes		Male		Female	
	Actual	Adj ¹	Actual	Adj ¹	Actual	Adj ¹
Under 1 year	0.9	0.9	—	—	1.9	1.9
1-4 years	0.5	0.8	0.5	0.5	0.5	1.1
5-14 years	0.1	0.1	—	—	0.2	0.2
15-24 years	3.0	4.1	3.5	4.0	2.5	4.2
25-34 years	10.5	12.8	14.4	16.8	6.8	9.0
35-44 years	18.2	22.0	26.6	31.7	10.4	13.0
45-54 years	13.2	14.8	19.9	23.1	7.1	7.1
55-64 years	5.4	5.8	5.8	6.7	5.0	5.0
65-74 years	2.1	2.1	1.6	1.6	2.5	2.5
75-84 years	2.9	4.3	7.1	10.7	—	—
85 years +	—	—	—	—	—	—

U.S. All Races			
Age Group	Both Sexes	Male	Female
Under 1 year	0.6	0.5	0.6
1-4 years	0.2	0.2	0.1
5-14 years	0.1	0.1	0.1
15-24 years	2.4	3.3	1.4
25-34 years	8.3	12.3	4.4
35-44 years	13.5	20.2	7.0
45-54 years	8.1	11.5	5.0
55-64 years	3.3	3.9	2.8
65-74 years	2.3	2.1	2.5
75-84 years	2.7	2.9	2.6
85 years +	4.4	5.9	3.9

U.S. White			
Age Group	Both Sexes	Male	Female
Under 1 year	0.4	0.5	0.3
1-4 years	0.1	0.1	0.1
5-14 years	0.1	0.1	0.1
15-24 years	2.5	3.5	1.5
25-34 years	8.3	12.4	4.2
35-44 years	12.4	18.4	6.3
45-54 years	7.1	9.4	4.8
55-64 years	3.1	3.3	2.8
65-74 years	2.3	2.0	2.6
75-84 years	2.7	2.8	2.6
85 years +	4.6	6.3	4.0

¹ Adjusted to compensate for misreporting of Indian race on death certificates.

Note: — Represents zero.

CHART 11

Accident Death Rates by Age and Sex, Indians and Alaska Natives (1994-96)

The likelihood of an Indian person dying from an accident increases with age for age groups 55 years and older, except for the age group 65 to 74 years. This is true without exception for the U.S. All Races and White populations. Indian males of all ages are much more likely to die from accidents than the corresponding Indian female groups; the male death rates for age groups 55 years and over range from 1.3 to 2.7 times as great as the female rates. In comparison to U.S. All Races and White male elders, the Indian male death rates are higher except for the age group, 85 years and over. Indian female accident death rates are higher than those for U.S. All Races and White females for all age groups. These Indian rates are adjusted for misreporting of Indian race on state death certificates.

Per 100,000 Population

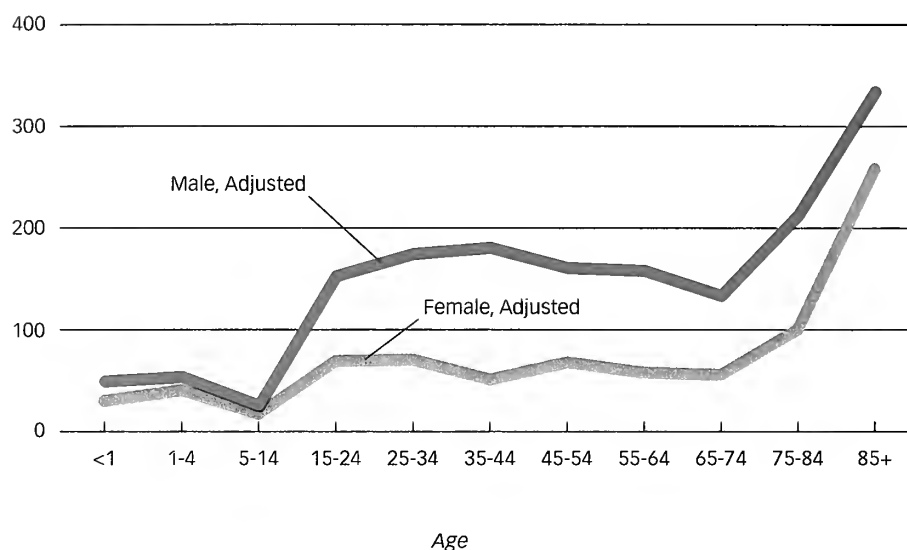


TABLE 11**Accident Death Rates by Age and Sex**

American Indians and Alaska Natives, IHS Service Area, 1994-1996, and U.S. All Races and White Populations, 1995
(Rate per 100,000 Population)

American Indian and Alaska Native						
Age Group	Both Sexes		Male		Female	
	Actual	Adj ¹	Actual	Adj ¹	Actual	Adj ¹
Under 1 year	36.2	39.9	42.3	49.6	30.0	30.0
1-4 years	40.1	47.4	45.3	54.0	34.7	40.5
5-14 years	20.0	21.6	23.8	25.8	16.1	17.3
15-24 years	90.6	112.0	131.4	153.1	48.2	69.2
25-34 years	103.3	121.5	152.2	174.9	56.0	70.4
35-44 years	99.9	113.9	159.7	181.1	43.8	50.9
45-54 years	99.9	112.5	145.2	161.3	58.4	67.8
55-64 years	97.1	104.7	147.1	158.6	53.5	57.7
65-74 years	87.5	90.2	127.7	134.0	55.6	55.6
75-84 years	134.3	145.7	191.8	213.1	95.6	100.3
85 years +	286.0	286.0	334.5	334.5	258.0	258.0
U.S. All Races						
Age Group	Both Sexes		Male		Female	
Under 1 year	20.6		21.5		19.5	
1-4 years	14.5		16.9		12.1	
5-14 years	9.4		11.8		6.8	
15-24 years	38.9		56.8		20.2	
25-34 years	33.2		51.0		15.4	
35-44 years	33.7		51.4		16.2	
45-54 years	30.0		45.3		15.4	
55-64 years	32.1		46.0		19.5	
65-74 years	45.0		60.1		32.9	
75-84 years	98.6		131.0		78.0	
85 years +	268.4		368.9		229.2	
U.S. White						
Age Group	Both Sexes		Male		Female	
Under 1 year	17.4		19.0		15.8	
1-4 years	13.3		15.4		11.1	
5-14 years	8.8		11.1		6.4	
15-24 years	40.6		58.7		21.4	
25-34 years	33.0		50.6		15.1	
35-44 years	32.2		48.9		15.3	
45-54 years	28.1		42.0		14.4	
55-64 years	30.4		42.9		18.9	
65-74 years	43.5		57.3		32.3	
75-84 years	98.0		129.1		78.2	
85 years +	274.1		374.0		235.6	

¹ Adjusted to compensate for misreporting of Indian race on death certificates.

CHART 12

Suicide Death Rates by Age and Sex, Indians and Alaska Natives (1994-96)

Suicide death rates are relatively low for Indian females compared to Indian males in age groups 55 and over. U.S. All Races and White females have slightly higher suicide death rates for these age groups than Indian females, but their rates are considerably less than the corresponding rates for males in the Indian, U.S. All Races, and U.S. White populations. Indian male elders, though, are less likely to die from suicide than U.S. All Races and White male elders. These Indian rates are adjusted for misreporting of Indian race on state death certificates.

Per 100,000 Population

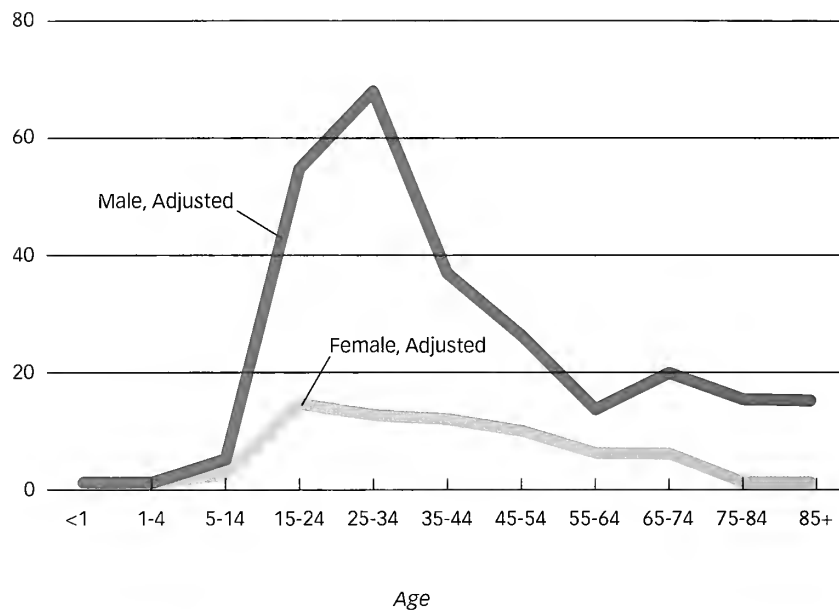


TABLE 12**Suicide Death Rates by Age and Sex**

American Indians and Alaska Natives, IHS Service Area, 1994-1996, and U.S. All Races and White Populations, 1995
(Rate per 100,000 Population)

American Indian and Alaska Native						
Age Group	Both Sexes		Male		Female	
	Actual	Adj ¹	Actual	Adj ¹	Actual	Adj ¹
Under 1 year	—	—	—	—	—	—
1-4 years	—	—	—	—	—	—
5-14 years	2.7	2.7	4.0	4.0	1.4	1.4
15-24 years	29.1	33.9	46.7	53.5	10.6	13.4
25-34 years	33.9	38.5	59.7	66.7	9.3	11.5
35-44 years	21.1	22.8	34.1	35.7	8.9	10.8
45-54 years	15.7	16.6	24.4	25.1	7.7	8.8
55-64 years	8.1	8.5	11.5	12.5	5.0	5.0
65-74 years	10.3	11.0	17.1	18.7	4.9	4.9
75-84 years	5.7	5.7	14.2	14.2	—	—
85 years +	5.1	5.1	13.9	13.9	—	—
U.S. All Races						
Age Group	Both Sexes		Male		Female	
Under 1 year	—	—	—	—	—	—
1-4 years	—	—	—	—	—	—
5-14 years	0.9	—	1.3	—	0.4	—
15-24 years	13.4	—	22.6	—	3.7	—
25-34 years	15.4	—	25.7	—	5.2	—
35-44 years	15.3	—	24.2	—	6.5	—
45-54 years	14.6	—	22.9	—	6.7	—
55-64 years	13.3	—	22.1	—	5.3	—
65-74 years	15.8	—	28.7	—	5.4	—
75-84 years	20.8	—	44.8	—	5.5	—
85 years +	21.6	—	63.1	—	5.5	—
U.S. White						
Age Group	Both Sexes		Male		Female	
Under 1 year	—	—	—	—	—	—
1-4 years	—	—	—	—	—	—
5-14 years	1.0	—	1.4	—	0.4	—
15-24 years	14.0	—	23.6	—	3.9	—
25-34 years	16.3	—	26.8	—	5.5	—
35-44 years	16.5	—	25.9	—	7.2	—
45-54 years	15.9	—	24.6	—	7.4	—
55-64 years	14.4	—	23.6	—	5.8	—
65-74 years	16.7	—	30.4	—	5.7	—
75-84 years	22.1	—	47.6	—	5.8	—
85 years +	23.0	—	68.2	—	5.6	—

¹ Adjusted to compensate for misreporting of Indian race on death certificates.

Note: — Represents zero.

CHART 13

Homicide Death Rates by Age and Sex, Indians and Alaska Natives (1994-96)

The elderly are less likely to die from homicide than persons in age groups between 15 and 54 years. However, Indian elders in the age group 55 to 64 years have a homicide death rate that is 1.7 times the rate for U.S. All Races elders and 2.3 times the rate for U.S. White elders in this age group. Within the Indian population, males aged 55 to 64 years are over 19 times as likely to die from homicide than the corresponding group for females. These Indian rates are adjusted for misreporting of Indian race on state death certificates.

Per 100,000 Population

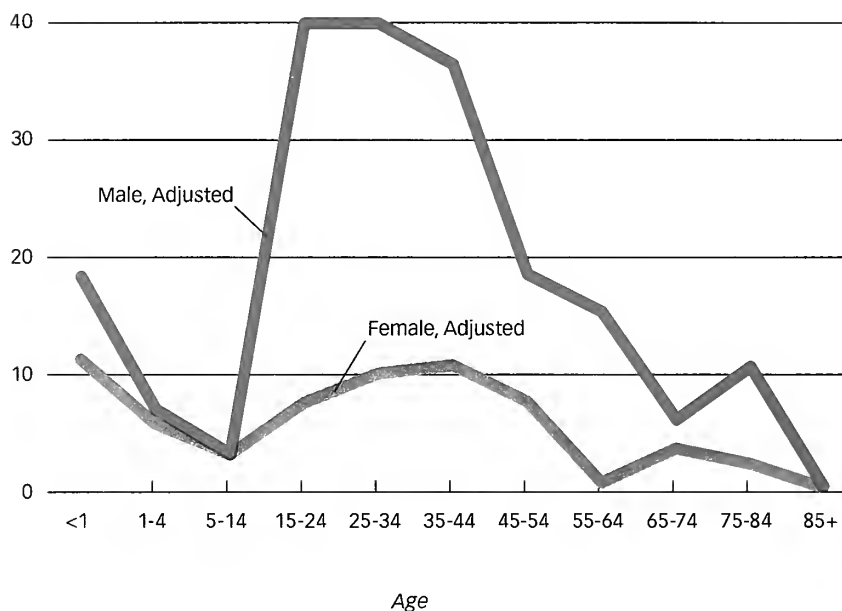


TABLE 13**Homicide Death Rates by Age and Sex**

American Indians and Alaska Natives, IHS Service Area, 1994-1996, and U.S. All Races and White Populations, 1995
(Rate per 100,000 Population)

American Indian and Alaska Native						
Age Group	Both Sexes		Male		Female	
	Actual	Adj ¹	Actual	Adj ¹	Actual	Adj ¹
Under 1 year	10.2	14.9	11.0	18.4	9.4	11.3
1-4 years	6.2	6.5	7.1	7.1	5.3	5.8
5-14 years	2.7	3.3	2.7	3.3	2.8	3.2
15-24 years	21.0	24.1	35.2	40.0	6.2	7.6
25-34 years	21.4	24.7	35.0	40.0	8.4	10.1
35-44 years	20.5	23.2	32.9	36.5	8.9	10.8
45-54 years	11.7	12.9	17.3	18.6	6.5	7.7
55-64 years	7.6	7.6	15.4	15.4	0.8	0.8
65-74 years	4.8	4.8	6.2	6.2	3.7	3.7
75-84 years	5.7	5.7	10.7	10.7	2.4	2.4
85 years +	—	—	—	—	—	—
U.S. All Races						
Age Group	Both Sexes		Male		Female	
Under 1 year	8.1		8.9		7.2	
1-4 years	2.9		3.1		2.6	
5-14 years	1.5		1.9		1.0	
15-24 years	20.3		34.0		6.1	
25-34 years	15.1		23.8		6.5	
35-44 years	9.7		14.6		4.9	
45-54 years	6.2		9.7		3.0	
55-64 years	4.5		7.2		2.1	
65-74 years	3.3		4.6		2.2	
75-84 years	3.1		3.7		2.7	
85 years +	3.3		4.3		2.9	
U.S. White						
Age Group	Both Sexes		Male		Female	
Under 1 year	6.1		7.1		5.0	
1-4 years	1.9		2.1		1.8	
5-14 years	1.0		1.3		0.8	
15-24 years	10.5		16.6		4.1	
25-34 years	8.7		13.0		4.2	
35-44 years	6.3		9.2		3.4	
45-54 years	4.4		6.4		2.5	
55-64 years	3.3		5.0		1.7	
65-74 years	2.4		3.2		1.9	
75-84 years	2.4		2.5		2.3	
85 years +	2.5		3.6		2.1	

¹ Adjusted to compensate for misreporting of Indian race on death certificates.

Note: — Represents zero.

CHART 14

Chronic Liver Disease and Cirrhosis Death Rates by Age and Sex, Indians and Alaska Natives (1994-96)

The likelihood of dying from chronic liver disease and cirrhosis is generally greater for Indian persons over 44 years of age than for younger persons. The peak death rate for this cause for Indian elders (115.0 deaths per 100,000 population) occurs at 55 to 64 years. This is also the age group that has the highest rate for Indian male elders, 148.0. For Indian female elders, the highest rate of 86.4 is for 65 to 74 years, which is 58 percent of the peak Indian male elder rate. Elders in the U.S. All Races and White populations have considerably lower rates — their peak rates (31.5 for 65 to 74 years and 32.2 for 75 to 84 years, respectively) are 27 percent and 28 percent of the Indian elder peak rate. These Indian rates are adjusted for misreporting of Indian race on state death certificates.

Per 100,000 Population

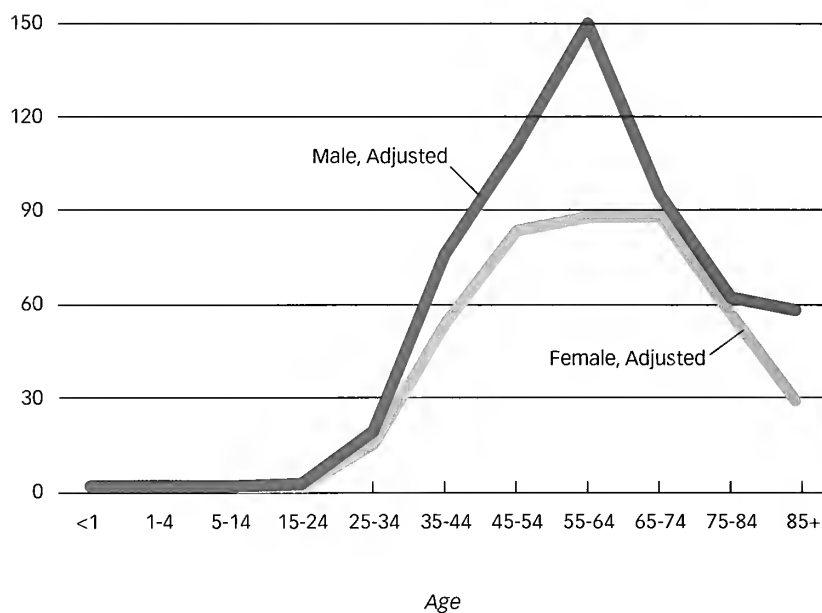


TABLE 14**Chronic Liver Disease and Cirrhosis Death Rates by Age and Sex**

American Indians and Alaska Natives, IHS Service Area, 1994-1996, and U.S. All Races and White Populations, 1995
(Rate per 100,000 Population)

American Indian and Alaska Native						
Age Group	Both Sexes		Male		Female	
	Actual	Adj ¹	Actual	Adj ¹	Actual	Adj ¹
Under 1 year	—	—	—	—	—	—
1-4 years	0.3	0.3	—	—	0.5	0.5
5-14 years	—	—	—	—	—	—
15-24 years	0.4	0.4	0.8	0.8	—	—
25-34 years	14.4	15.7	16.5	17.6	12.4	13.8
35-44 years	54.4	62.9	65.8	74.1	43.8	52.3
45-54 years	81.5	94.7	96.4	108.6	67.8	81.9
55-64 years	100.6	115.0	100.6	148.0	77.0	86.2
65-74 years	81.3	89.5	81.3	93.5	77.8	86.4
75-84 years	52.9	57.1	52.9	60.4	52.6	54.9
85 years +	35.8	35.8	35.8	55.8	24.2	24.2

U.S. All Races			
Age Group	Both Sexes	Male	Female
Under 1 year	0.6	0.7	0.5
1-4 years	0.0	0.0	0.1
5-14 years	0.0	0.0	0.0
15-24 years	0.1	0.1	0.0
25-34 years	1.5	2.0	0.9
35-44 years	8.7	12.9	4.7
45-54 years	16.9	25.7	8.6
55-64 years	25.4	36.6	15.2
65-74 years	31.5	44.1	21.5
75-84 years	31.4	40.8	25.4
85 years +	22.9	34.8	18.3

U.S. White			
Age Group	Both Sexes	Male	Female
Under 1 year	0.5	0.7	0.3
1-4 years	0.0	0.0	0.0
5-14 years	0.0	0.0	0.0
15-24 years	0.1	0.1	0.0
25-34 years	1.4	2.0	0.8
35-44 years	8.2	12.2	4.2
45-54 years	16.0	24.1	7.7
55-64 years	24.5	35.4	14.4
65-74 years	32.1	44.7	21.9
75-84 years	32.2	42.3	25.8
85 years +	23.4	35.6	18.7

¹ Adjusted to compensate for misreporting of Indian race on death certificates.

Note: — Represents zero.

0.0 rounds to zero.

CHART 15

Diabetes Mellitus Death Rates by Age and Sex, Indians and Alaska Natives (1994-96)

Death rates due to diabetes mellitus increase with age, except for Indian elders over 84 years. Indian elders die from diabetes mellitus at greater rates than elders in the U.S. All Races and White populations. However, the gaps decrease with age. That is, the Indian rate is 4.3 times the U.S. All Races rate for the age group 55 to 64 years, but 1.5 times for the age group 85 years and older. In comparison to U.S. White elders, the Indian gap narrows from 5.1 times to 1.6 times. Indian female elders are more likely to die from diabetes mellitus than Indian male elders. The widest difference is for the age group 85 years and older—the female rate is 1.7 times the male rate. These Indian rates are adjusted for misreporting of Indian race on state death certificates.

Per 100,000 Population

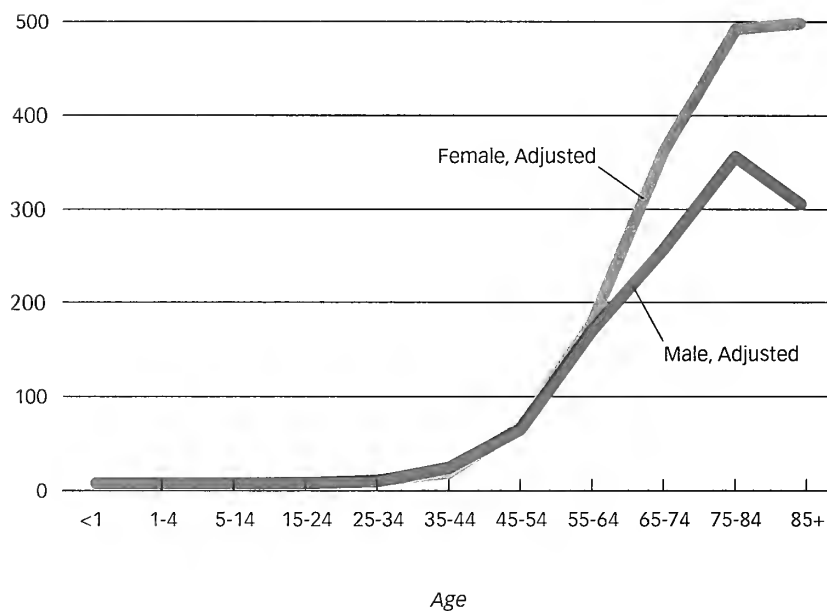


TABLE 15**Diabetes Mellitus Death Rates by Age and Sex**

American Indians and Alaska Natives, IHS Service Area, 1994-1996, and U.S. All Races and White Populations, 1995
(Rate per 100,000 Population)

American Indian and Alaska Native						
Age Group	Both Sexes		Male		Female	
	Actual	Adj ¹	Actual	Adj ¹	Actual	Adj ¹
Under 1 year	—	—	—	—	—	—
1-4 years	—	—	—	—	—	—
5-14 years	—	—	—	—	—	—
15-24 years	0.1	0.1	0.3	0.3	—	—
25-34 years	2.3	2.7	2.1	2.1	2.5	3.4
35-44 years	12.5	14.0	15.9	16.6	9.3	11.5
45-54 years	49.5	59.0	50.1	57.2	48.9	60.7
55-64 years	138.2	167.7	138.4	162.5	138.0	172.3
65-74 years	263.8	308.6	221.2	249.3	297.6	355.6
75-84 years	368.5	429.9	287.7	348.1	422.8	484.9
85 years +	413.7	418.8	292.7	292.7	483.7	491.7

U.S. All Races			
Age Group	Both Sexes	Male	Female
Under 1 year	—	—	—
1-4 years	0.0	0.1	0.0
5-14 years	0.0	0.0	0.0
15-24 years	0.4	0.5	0.3
25-34 years	1.5	1.7	1.3
35-44 years	4.3	5.1	3.6
45-54 years	12.9	15.1	10.7
55-64 years	38.8	41.6	36.3
65-74 years	86.6	90.9	83.3
75-84 years	162.8	176.5	154.1
85 years +	278.0	289.3	273.1

U.S. White			
Age Group	Both Sexes	Male	Female
Under 1 year	—	—	—
1-4 years	0.0	0.1	—
5-14 years	0.0	0.0	0.0
15-24 years	0.3	0.3	0.2
25-34 years	1.3	1.4	1.1
35-44 years	3.8	4.5	3.1
45-54 years	10.7	12.8	8.7
55-64 years	32.6	36.3	29.2
65-74 years	77.3	83.9	71.9
75-84 years	150.9	168.7	139.5
85 years +	264.1	279.5	258.1

¹ Adjusted to compensate for misreporting of Indian race on death certificates.

Note: — Represents zero.

0.0 rounds to zero.

CHART 16

Heart Disease Death Rates by Age and Sex, Indians and Alaska Natives (1994-96)

For the elder age groups (both sexes combined), the death rate due to diseases of the heart more than doubles as it applies to the next higher age group. Indian elders have a higher death rate for this cause than elders in the U.S. All Races and White populations for the age groups 55 to 74 years. The Indian rate is less, however, for the other elder age groups in comparison to these two populations. For 75 to 84 years, it is 9 percent less than both the U.S. All Races and White rates. For 85 years and older, it is 33 percent less. Indian males are 1.1 to 2.2 times more likely to die from diseases of the heart than Indian females in the elder age groups. These Indian rates are adjusted for misreporting of Indian race on state death certificates.

Per 100,000 Population

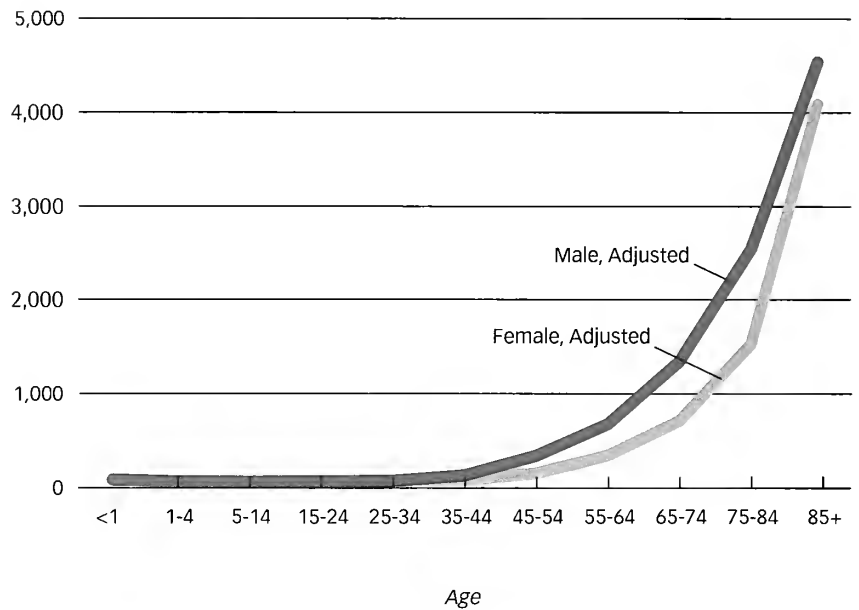


TABLE 16**Heart Disease Death Rates by Age and Sex**

American Indians and Alaska Natives, IHS Service Area, 1994-1996, and U.S. All Races and White Populations, 1995
(Rate per 100,000 Population)

American Indian and Alaska Native						
Age Group	Both Sexes		Male		Female	
	Actual	Adj ¹	Actual	Adj ¹	Actual	Adj ¹
Under 1 year	15.8	19.5	16.5	23.9	15.0	15.0
1-4 years	1.6	2.1	1.5	1.5	1.6	2.6
5-14 years	0.7	1.0	1.1	1.8	0.2	0.2
15-24 years	3.2	4.3	3.5	3.8	2.8	4.8
25-34 years	9.1	10.1	11.8	12.6	6.5	7.6
35-44 years	39.7	46.0	62.2	71.3	18.6	22.3
45-54 years	154.9	182.6	238.4	281.4	78.4	92.0
55-64 years	369.5	439.2	523.9	619.0	235.1	282.8
65-74 years	785.2	933.3	1,079.6	1,288.3	551.9	651.9
75-84 years	1,569.6	1,878.1	2,021.0	2,486.2	1,266.1	1,469.2
85 years +	4,070.7	4,377.1	4,167.8	4,627.8	4,014.5	4,232.2
U.S. All Races						
Age Group	Both Sexes		Male		Female	
Under 1 year	17.2		17.6		16.8	
1-4 years	1.6		1.7		1.5	
5-14 years	0.8		0.8		0.7	
15-24 years	2.9		3.6		2.2	
25-34 years	8.5		11.4		5.6	
35-44 years	32.1		47.4		17.1	
45-54 years	111.3		169.2		56.1	
55-64 years	324.1		467.1		194.4	
65-74 years	801.8		1,105.1		558.9	
75-84 years	2,067.0		2,618.5		1,716.6	
85 years +	6,486.5		7,043.8		6,269.5	
U.S. White						
Age Group	Both Sexes		Male		Female	
Under 1 year	15.0		15.4		14.6	
1-4 years	1.2		1.3		1.2	
5-14 years	0.6		0.7		0.6	
15-24 years	2.2		2.8		1.6	
25-34 years	7.0		9.5		4.4	
35-44 years	27.9		42.5		13.1	
45-54 years	100.4		156.2		46.0	
55-64 years	303.9		444.7		173.6	
65-74 years	776.3		1,083.3		527.3	
75-84 years	2,053.0		2,619.5		1,691.2	
85 years +	6,581.1		7,169.8		6,354.3	

¹ Adjusted to compensate for misreporting of Indian race on death certificates.

CHART 17

Cerebrovascular Diseases Death Rates by Age and Sex, Indians and Alaska Natives (1994-96)

Indian elders die from cerebrovascular diseases at higher rates than elders in the U.S. All Races and White populations for age groups 55 to 74 years. For older age groups, U.S. All Races and White elders are more likely to die from this cause than Indian elders. Indian male elders are somewhat more likely to die from cerebrovascular diseases than Indian female elders, except for the age group 85 years and over. These Indian rates are adjusted for misreporting of Indian race on state death certificates.

Per 100,000 Population

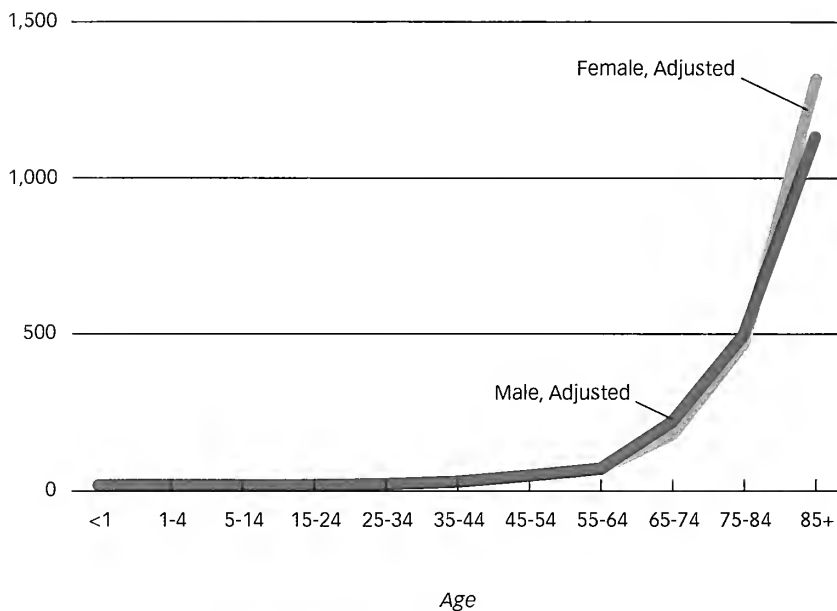


TABLE 17**Cerebrovascular Diseases Death Rates by Age and Sex**

American Indians and Alaska Natives, IHS Service Area, 1994-1996, and U.S. All Races and White Populations, 1995
(Rate per 100,000 Population)

American Indian and Alaska Native						
Age Group	Both Sexes		Male		Female	
	Actual	Adj ¹	Actual	Adj ¹	Actual	Adj ¹
Under 1 year	0.9	—	—	—	1.9	—
1-4 years	0.5	0.8	—	—	1.1	1.6
5-14 years	0.1	0.1	0.2	0.2	—	—
15-24 years	0.7	0.7	1.1	1.1	0.3	0.3
25-34 years	3.0	4.0	3.5	4.1	2.5	3.9
35-44 years	10.5	11.5	11.1	11.9	10.0	11.1
45-54 years	27.1	30.7	29.6	31.5	24.8	30.1
55-64 years	47.4	52.3	49.0	53.8	46.0	51.0
65-74 years	157.7	180.5	177.6	204.1	142.0	161.8
75-84 years	411.3	465.6	429.8	483.0	398.9	453.9
85 years +	1,190.1	1,230.9	1,073.3	1,115.1	1,257.6	1,297.9

U.S. All Races			
Age Group	Both Sexes	Male	Female
Under 1 year	5.8	6.3	5.2
1-4 years	0.4	0.4	0.3
5-14 years	0.2	0.2	0.2
15-24 years	0.5	0.5	0.4
25-34 years	1.8	1.9	1.7
35-44 years	6.5	7.1	6.0
45-54 years	17.7	19.8	15.6
55-64 years	46.2	53.5	39.6
65-74 years	137.5	156.2	122.5
75-84 years	481.8	517.5	459.2
85 years +	1,637.1	1,538.4	1,675.5

U.S. White			
Age Group	Both Sexes	Male	Female
Under 1 year	5.3	6.0	4.6
1-4 years	0.3	0.3	0.2
5-14 years	0.2	0.2	0.1
15-24 years	0.4	0.5	0.4
25-34 years	1.5	1.6	1.4
35-44 years	4.8	5.2	4.5
45-54 years	13.8	14.9	12.8
55-64 years	39.0	44.8	33.8
65-74 years	126.7	143.8	112.8
75-84 years	470.7	503.4	449.9
85 years +	1,651.7	1,550.9	1,690.6

¹ Adjusted to compensate for misreporting of Indian race on death certificates.

Note: — Represents zero.

CHART 18

Malignant Neoplasm Death Rates by Age and Sex, Indians and Alaska Natives (1994-96)

From the age of 5, the older a person is, the more likely that person will die as a result of a malignant neoplasm. However, Indian elders have lower malignant neoplasm death rates than elders in the U.S. All Races and White populations. Within the Indian population, male elders are more likely to die from malignant neoplasms than female elders. These Indian rates are adjusted for misreporting of Indian race on state death certificates.

Per 100,000 Population

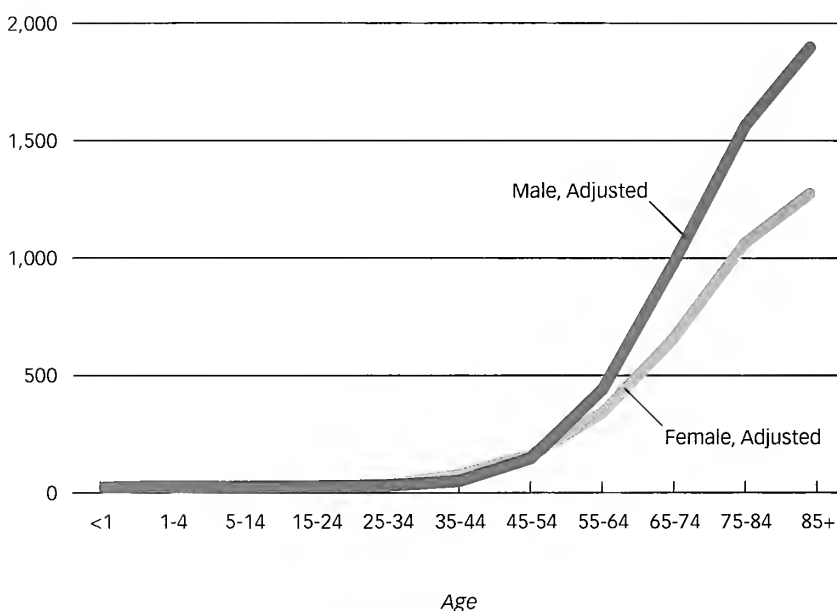


TABLE 18**Malignant Neoplasm Death Rates by Age and Sex**

American Indians and Alaska Natives, IHS Service Area, 1994-1996, and U.S. All Races and White Populations, 1995
(Rate per 100,000 Population)

American Indian and Alaska Native						
Age Group	Both Sexes		Male		Female	
	Actual	Adj ¹	Actual	Adj ¹	Actual	Adj ¹
Under 1 year	1.9	0.9	3.7	1.8	—	—
1-4 years	2.6	2.8	4.1	4.6	1.1	1.1
5-14 years	1.9	2.5	1.8	2.0	2.1	3.0
15-24 years	3.4	3.8	3.5	3.8	3.4	3.9
25-34 years	8.5	10.1	6.8	7.3	10.1	12.7
35-44 years	34.3	40.3	25.4	26.6	42.7	53.1
45-54 years	117.7	130.7	112.4	123.4	122.6	137.3
55-64 years	313.6	364.5	360.5	417.2	272.7	318.7
65-74 years	675.7	778.3	825.7	956.5	556.9	637.1
75-84 years	1,096.9	1,244.0	1,353.2	1,541.5	924.5	1,043.9
85 years +	1,465.9	1,506.7	1,812.1	1,909.7	1,265.6	1,273.7

U.S. All Races			
Age Group	Both Sexes	Male	Female
Under 1 year	1.8	1.8	1.8
1-4 years	3.1	3.6	2.6
5-14 years	2.7	3.0	2.4
15-24 years	4.6	5.6	3.6
25-34 years	12.0	11.7	12.3
35-44 years	40.4	36.6	44.1
45-54 years	142.3	143.9	140.9
55-64 years	416.4	481.1	357.9
65-74 years	868.7	1,090.7	691.0
75-84 years	1,365.3	1,843.1	1,061.8
85 years +	1,824.2	2,838.1	1,429.4

U.S. White			
Age Group	Both Sexes	Male	Female
Under 1 year	1.8	1.9	1.7
1-4 years	3.1	3.7	2.4
5-14 years	2.7	3.1	2.3
15-24 years	4.6	5.5	3.5
25-34 years	11.4	11.3	11.5
35-44 years	38.2	34.3	42.1
45-54 years	135.4	134.4	136.3
55-64 years	404.7	460.5	353.0
65-74 years	858.1	1,065.5	689.8
75-84 years	1,353.3	1,811.6	1,060.5
85 years +	1,811.5	2,806.0	1,428.4

¹ Adjusted to compensate for misreporting of Indian race on death certificates.

Note: — Represents zero.

CHART 19

Death Rates, Leading Cancer Sites: 55 Years and Older

The leading site for cancer deaths among Indian elders is, by a large margin, trachea, bronchus, and lung. The number of cancer deaths among Indian elders for this site is 3.1 and 4.4 times the numbers for the second and third leading sites, colon and prostate, respectively. The number of prostate cancer deaths is 22 percent greater than the number of female breast (the fourth leading site) cancer deaths for Indian elders and 45 percent greater than the number for liver (the fifth leading site). Elders in the U.S. All Races and White populations have the same top four leading sites in the same order, except that the order for prostate and female breast cancer deaths is reversed for U.S. White elders. The fifth leading site for the U.S. All Races and White populations is pancreas. However, elders in the U.S. All Races and White populations have much higher pancreatic cancer death rates than Indian elders. In contrast to the first five sites, Indian elder cancer death rates for Indian sites 7 and 8 (stomach and kidney) exceed the corresponding U.S. All Races and White rates. These Indian counts and rates are adjusted for misreporting of Indian race on state death certificates.

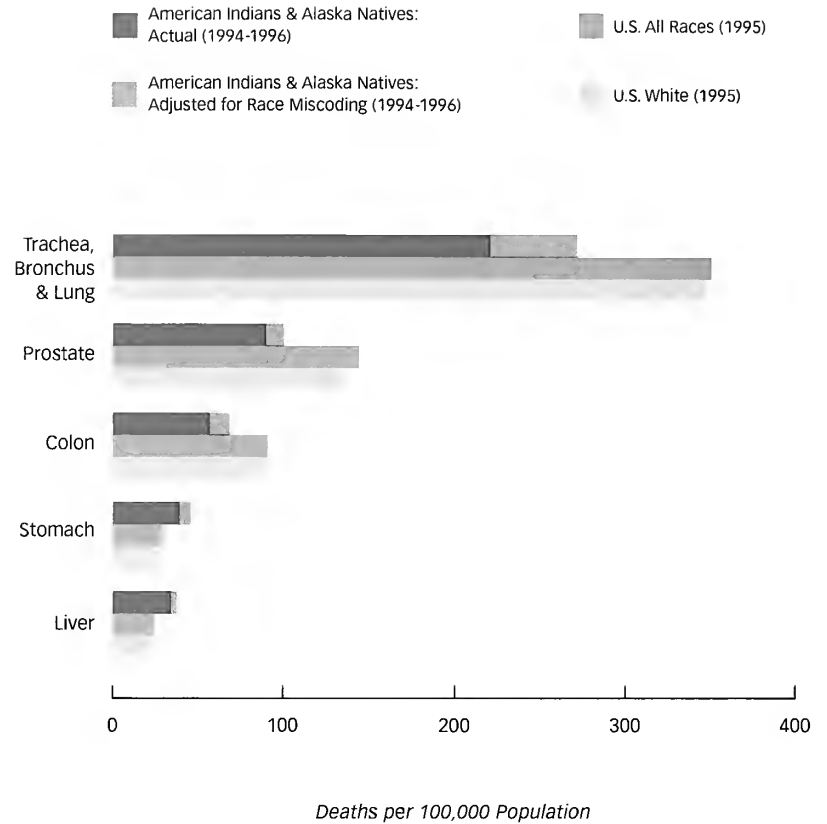


TABLE 19**Leading Sites for Cancer Deaths for Decedents, 55 Years Old and Older**

American Indians and Alaska Natives, IHS Service Area, 1994-1996, and U.S. All Races and White Populations, 1995
(Rate per 100,000 Population)

Site of Cancer Death	American Indian & Alaska Native Number		Rate		U.S. All Races Rate	U.S. White Rate	Ratio ¹ of American Indian & Alaska Native to:	
	Actual	Adj ¹	Actual	Adj ¹			U.S. All Races	U.S. White
All Sites	2,728	2,963	595.2	646.5	858.6	855.5	0.8	0.8
Trachea, bronchus and lung	735	890	160.4	194.2	249.8	251.4	0.8	0.8
Colon	241	286	52.6	62.4	81.8	81.4	0.8	0.8
Prostate	182	201	39.7	43.9	62.4	58.4	0.7	0.8
Female breast	146	165	31.9	36.0	61.3	61.7	0.6	0.6
Liver	129	139	28.2	30.3	17.7	16.6	1.7	1.8
Pancreas	122	139	26.6	30.3	44.5	44.0	0.7	0.7
Stomach	120	137	26.2	29.9	21.9	19.7	1.4	1.5
Kidney	118	121	25.8	26.4	18.1	18.6	1.5	1.4
Multiple myeloma	70	75	15.3	16.4	17.3	16.2	0.9	1.0
Rectum, rectosigmoid junction and anus	59	65	12.9	14.2	13.6	13.7	1.0	1.0
Leukemia	59	62	12.9	13.5	30.1	31.2	0.4	0.4
Esophagus	45	58	9.8	12.7	17.5	16.5	0.7	0.8
Ovary	53	56	11.6	12.2	21.0	21.8	0.6	0.6
Gallbladder	51	52	11.1	11.4	6.5	6.6	1.8	1.7
Cervix uteri	28	31	6.1	6.8	4.6	3.9	1.5	1.7
Bladder	27	31	5.9	6.8	19.4	20.1	0.4	0.4
Brain	27	29	5.9	6.3	14.8	15.7	0.4	0.4
Pharynx	19	19	4.2	4.2	5.7	5.2	0.7	0.8
Larynx	19	19	4.2	4.2	6.1	5.7	0.7	0.7
Connective and other soft tissue	13	15	2.8	3.3	4.7	4.7	0.7	0.7
Melanoma of skin	11	11	2.4	2.4	8.9	9.9	0.3	0.2
Thyroid gland	10	11	2.2	2.4	1.8	1.9	1.3	1.3
Tongue	7	8	1.5	1.8	2.7	2.7	0.7	0.7
Bone and articular cartilage	4	6	0.9	1.3	1.3	1.3	1.0	1.0
Small intestine	2	2	0.4	0.4	1.7	1.6	0.2	0.3
Male breast	2	2	0.4	0.4	0.6	0.5	0.7	0.8
Penis	2	2	0.4	0.4	0.4	0.4	1.0	1.0
Lymphosarcoma and reticulosarcoma	2	2	0.4	0.4	1.5	1.6	0.3	0.3
Hodgkin's disease	1	1	0.2	0.2	1.4	1.4	0.1	0.1
All other sites	424	328						

¹ Adjusted to compensate for misreporting of Indian race on death certificates.

Note: See appendix "Method Used to Rank Leading Sites of Cancer Deaths."

Causes of death are listed based upon the order of adjusted number of deaths.

CHART 20

Age-Specific Prostate Cancer Death Rates

The likelihood of a man dying from prostate cancer increases with age. The death rates become pronounced at age 55. The Indian rate is somewhat higher than the rates in the U.S. All Races and White populations for the age group 55 to 64 years. However for the older age groups, the Indian rate ranges from 7 percent to 55 percent less than the comparable rates in these two populations. These Indian rates are adjusted for misreporting of Indian race on state death certificates.

Per 100,000 Male Population

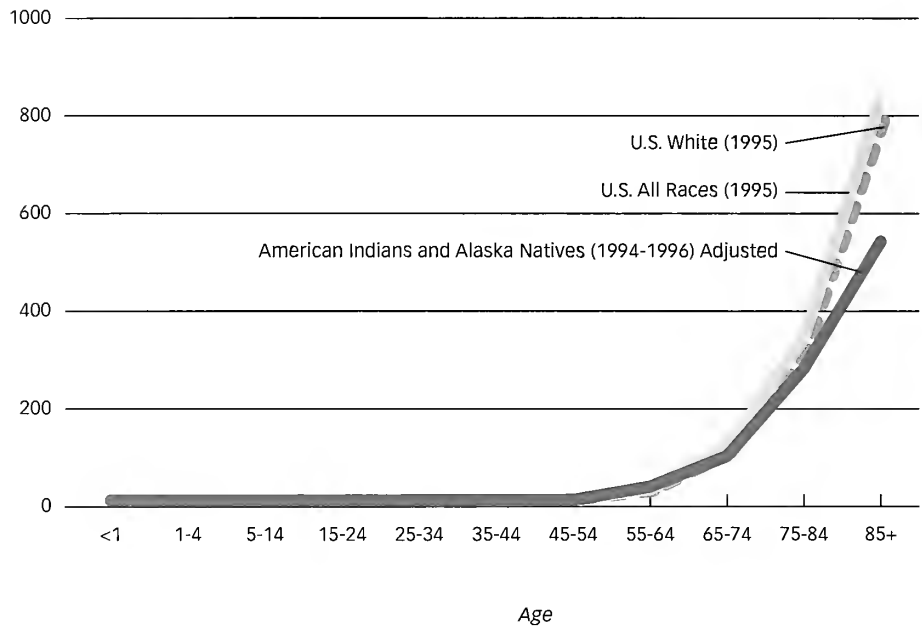


TABLE 20**Age-Specific Prostate Cancer Mortality Rates**

American Indians and Alaska Natives, IHS Service Area, 1994-1996, and Selected U.S. Populations, 1995
(Rate per 100,000 males in specified age-group)

Age Group	American Indian & Alaska Native				U.S. All Races		U.S. White	
	Number		Rate		Number	Rate	Number	Rate
	Actual	Adj ¹	Actual	Adj ¹				
All Ages	184	203 ²	11.6	12.9 ²	34,497	15.4 ²	28,513	14.0 ²
Under 1 year	--	--	--	--	--	--	--	--
1-4 years	--	--	--	--	--	--	--	--
5-14 years	--	--	--	--	--	--	--	--
15-24 years	--	--	--	--	5	0.0	5	0.0
25-34 years	--	--	--	--	3	0.0	2	0.0
35-44 years	1	1	0.4	0.4	36	0.2	24	0.1
45-54 years	1	1	0.6	0.6	331	2.2	251	1.9
55-64 years	26	29	25.0	27.9	2,301	22.9	1,716	19.5
65-74 years	52	58	81.0	90.4	9,092	109.0	7,224	96.9
75-84 years	69	76	245.1	269.9	14,399	332.6	12,145	308.3
85 years +	35	38	487.9	529.7	8,330	819.2	7,146	777.8

¹ Adjusted to compensate for misreporting of Indian race on death certificates.

² Age-adjusted mortality rate.

Note: 0.0 Rounds to zero. ICD-9 Codes 185.0 to 185.9.

CHART 21

Pneumonia and Influenza Death Rates by Age and Sex, Indians and Alaska Natives (1994-96)

From the age of 15, the older a person is, the more likely that person will die as a result of a pneumonia and influenza. Indian elders have higher pneumonia and influenza death rates than elders in the U.S. All Races and White populations. Within the Indian population, male elders are more likely to die from pneumonia and influenza than female elders. These Indian rates are adjusted for misreporting of Indian race on state death certificates.

Per 100,000 Population

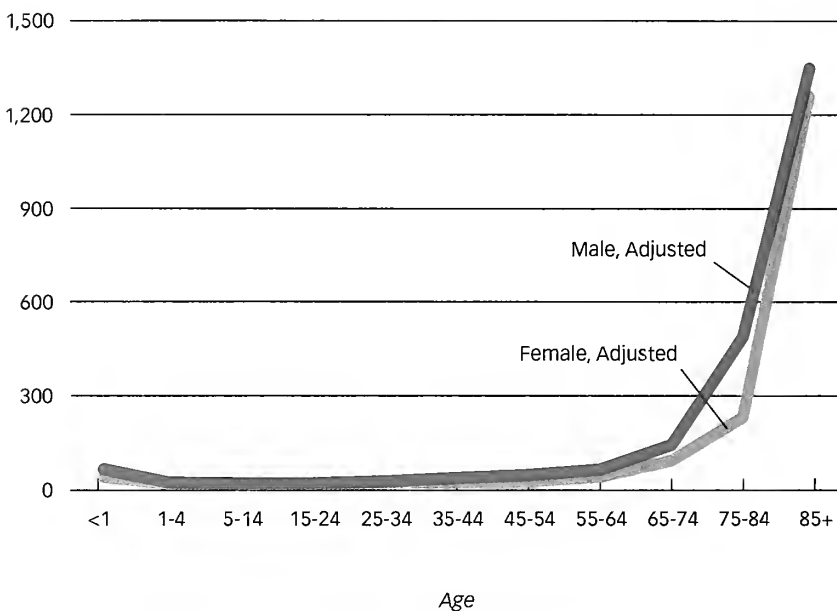


TABLE 21**Pneumonia and Influenza Death Rates by Age and Sex**

American Indians and Alaska Natives, IHS Service Area, 1994-1996, and U.S. All Races and White Populations, 1995
(Rate per 100,000 Population)

American Indian and Alaska Native						
Age Group	Both Sexes		Male		Female	
	Actual	Adj ¹	Actual	Adj ¹	Actual	Adj ¹
Under 1 year	29.7	36.2	42.3	47.8	16.9	24.4
1-4 years	1.6	1.8	2.0	2.5	1.1	1.1
5-14 years	0.7	1.0	0.4	0.4	0.9	1.4
15-24 years	0.5	0.7	0.3	0.5	0.8	0.8
25-34 years	4.2	5.0	5.9	6.5	2.5	3.7
35-44 years	11.5	12.3	16.3	17.4	7.1	7.4
45-54 years	16.3	17.5	25.1	27.0	8.3	8.8
55-64 years	31.3	33.1	41.3	44.2	22.6	23.4
65-74 years	87.5	95.7	112.2	123.1	67.9	74.1
75-84 years	282.8	315.6	419.1	468.8	191.1	212.6
85 years +	1,302.4	1,338.2	1,324.2	1,380.0	1,289.8	1,314.0
U.S. All Races						
Age Group	Both Sexes		Male		Female	
Under 1 year	12.8		14.3		11.3	
1-4 years	1.0		0.9		1.1	
5-14 years	0.3		0.3		0.4	
15-24 years	0.6		0.6		0.5	
25-34 years	1.5		1.9		1.2	
35-44 years	3.5		4.4		2.6	
45-54 years	6.7		8.7		4.8	
55-64 years	16.4		20.8		12.4	
65-74 years	57.2		75.1		43.0	
75-84 years	233.2		305.4		187.5	
85 years +	1,035.7		1,287.3		937.9	
U.S. White						
Age Group	Both Sexes		Male		Female	
Under 1 year	10.1		11.1		9.0	
1-4 years	0.7		0.6		0.8	
5-14 years	0.3		0.3		0.3	
15-24 years	0.5		0.7		0.4	
25-34 years	1.2		1.5		1.0	
35-44 years	2.8		3.5		2.1	
45-54 years	5.5		6.9		4.2	
55-64 years	14.7		18.3		11.4	
65-74 years	55.0		71.3		41.8	
75-84 years	232.1		302.3		187.3	
85 years +	1,055.5		1,307.5		958.4	

¹ Adjusted to compensate for misreporting of Indian race on death certificates.

CHART 22

Hospital Discharge Rates by Age, FY 1997

The IHS hospital (IHS and Tribal direct and contract general hospitals) discharge rate, all ages, is considerably less than the rate for U.S. general short-stay hospitals, i.e., 61.2 discharges per 1,000 population compared to 114.3, or 46 percent less. The gap is even greater for those aged 65 years and older. The IHS rate (172.3) is less than half of the U.S. rate (361.1).

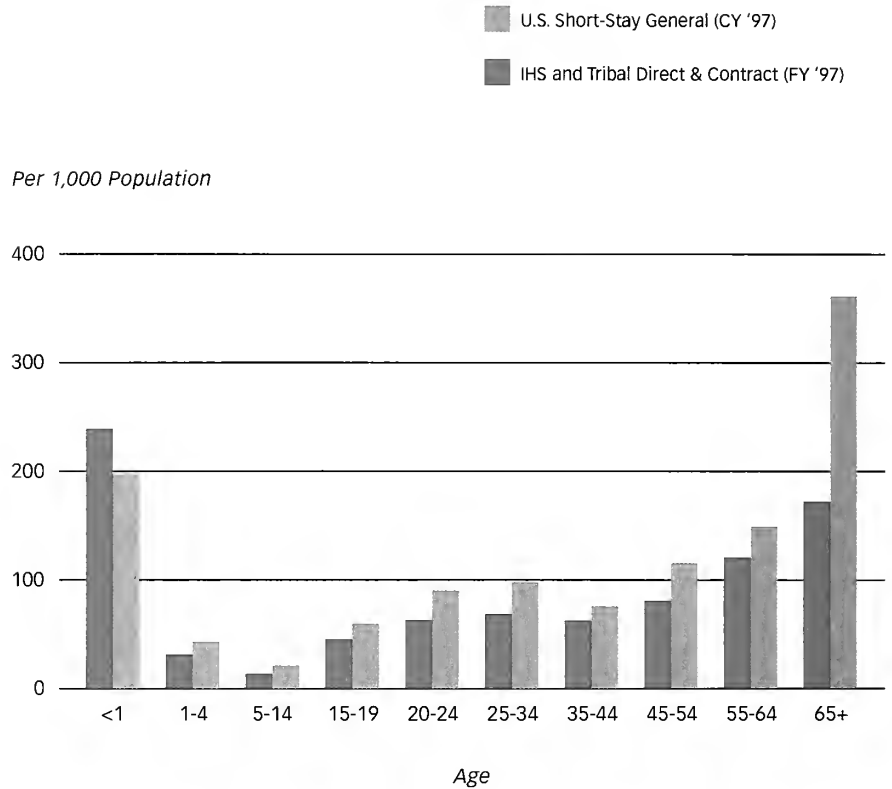


TABLE 22

Comparison of IHS
and U.S. Hospital
Discharge Rates
by Age, FY 1997

Age of Admission	Discharges per 1,000 Population		Percent Difference IHS Rate to U.S. Rate
	IHS	U.S.	
All Ages	61.2	114.3	-46.4
Under 1 year	238.9	196.6	21.5
1-4 years	31.0	43.3	-28.5
5-14 years	13.3	21.2	-37.1
15-19 years	45.4	59.6	-23.8
20-24 years	63.0	90.1	-30.1
25-34 years	68.3	97.7	-30.1
35-44 years	62.3	75.7	-17.8
45-54 years	80.8	115.4	-30.0
55-64 years	120.6	149.1	-19.1
65 years and over	172.3	361.1	-52.3

Note: IHS discharge rates were calculated using the IHS FY 1997 user population.

Sources: IHS: Annual reports 2C and 3I

U.S.: Utilization of Short-Stay Hospitals, Annual Summary of the U.S., NCHS

CHART 23

Percent Distributions for Population and Patient Care Workloads, FY 1997

Indians over 64 years of age comprise 5.8 percent of the IHS user population but consume considerably higher percentages of IHS health services, i.e., 11.4 percent of the ambulatory medical clinical impressions, 16.3 percent of the inpatient discharges, and 23.0 percent of the inpatient days. A similar relationship exists for Indians in the 55 to 64 year age group, although to a lesser degree for inpatient services. They are 5.3 percent of the user population but have 10.6 percent of the ambulatory medical clinical impressions, 10.4 percent of the inpatient discharges, and 13.9 percent of the inpatient days.

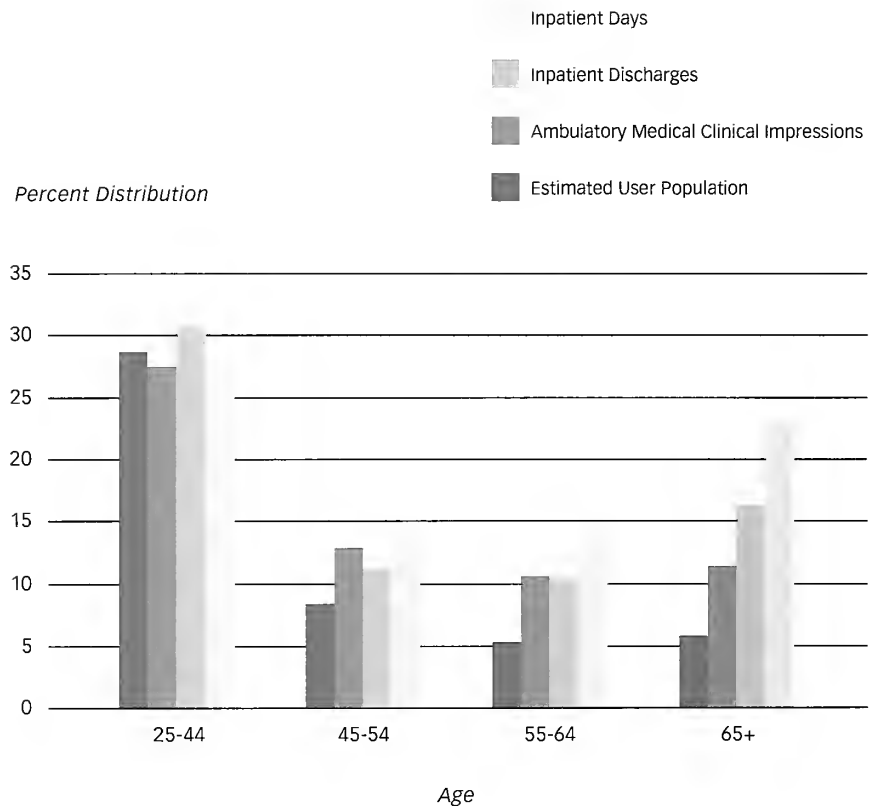


TABLE 23

Percent Distributions for Estimated Population, Ambulatory Medical Clinical Impressions,
and Inpatient Discharges and Days, FY 1997

Age									
Distribution	All ages	Under 1 year	1-4 years	5-14 years	15-24 years	25-44 years	45-54 years	55-64 years	65 years & over
Estimated user population	100.0	1.5	8.8	23.0	18.4	28.7	8.4	5.3	5.8
Ambulatory medical clinical impressions	100.0	4.0	7.9	12.8	12.9	27.5	12.9	10.6	11.4
Inpatient discharges	100.0	5.8	4.4	5.0	16.2	30.7	11.2	10.4	16.3
Inpatient days	100.0	4.7	2.8	3.5	10.9	27.8	13.2	13.9	23.0

CHART 24

Leading Causes of Hospitalization: Ages 55 to 64 Years, FY 1997

Circulatory system diseases is the leading cause of hospitalization for patients, ages 55 to 64 years, in IHS and Tribal direct and contract general hospitals. The second leading cause of hospitalization is digestive system diseases. These are also the top two leading causes for both males and females in this age group.

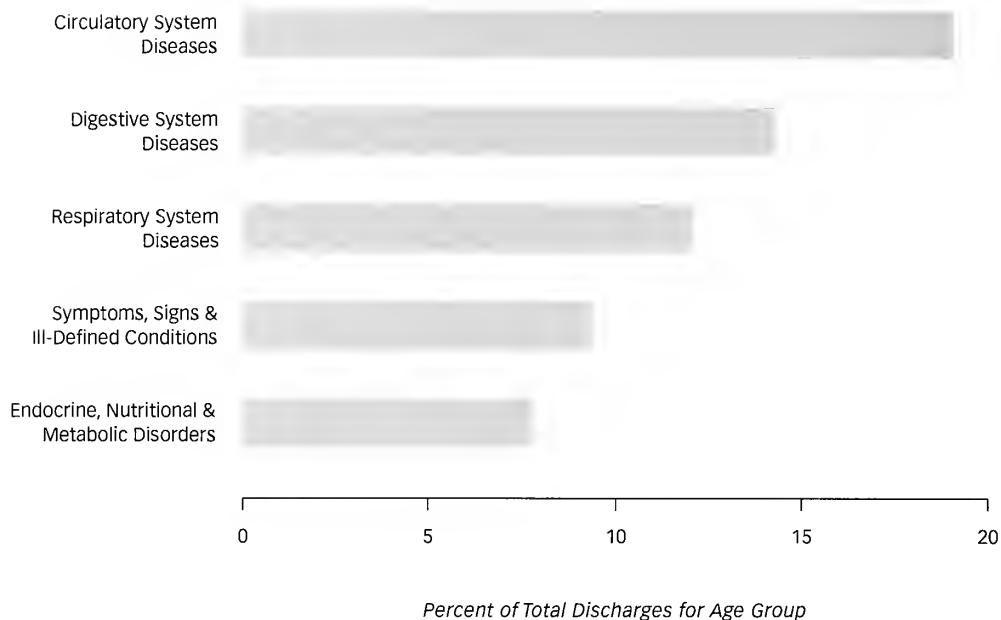


TABLE 24**Ten Leading Causes of Hospitalization for GM&S Patients 55 to 64 Years of Age**

Indian Health Service and Tribal Direct and Contract General Hospitals, FY 1997

Diagnostic Category	Number of Discharges			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
All Categories	8,391	3,815	4,576	100.0	45.5	54.5
				100.0	100.0	100.0
Circulatory system diseases	1,604	856	748	19.1	22.4	16.3
Digestive system diseases	1,200	528	672	14.3	13.8	14.7
Respiratory system diseases	1,014	426	588	12.1	11.2	12.8
Symptoms, signs & ill-defined conditions	788	361	427	9.4	9.5	9.3
Endocrine, nutritional & metabolic disorders	653	269	384	7.8	7.1	8.4
Injury & poisoning	594	304	290	7.1	8.0	6.3
Genitourinary system diseases	559	152	407	6.7	4.0	8.9
Skin and subcutaneous tissue diseases	424	199	225	5.1	5.2	4.9
Neoplasms	423	189	234	5.0	5.0	5.1
Musculoskeletal system and connective tissue diseases	341	140	201	4.1	3.7	4.4
All other	791	391	400	9.4	10.2	8.7

Sources: Direct: On-request Report 21

Contract: On-request Report 19

CHART 25

Leading Causes
of Hospitalization:
Ages 65+ Years,
FY 1997

Respiratory system diseases is the leading cause of hospitalization for patients, ages 65 years and older, in IHS and Tribal direct and contract general hospitals. The second leading cause of hospitalization is circulatory system diseases. These are also the top two leading causes for females in this age group. For males, the order is reversed.

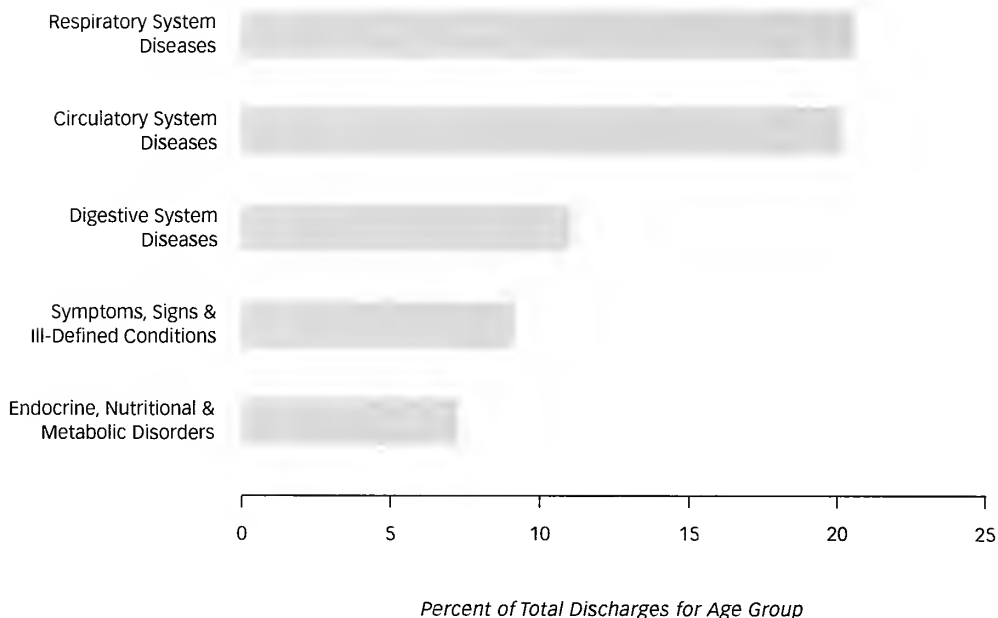


TABLE 25

Ten Leading Causes of Hospitalization for GM&S Patients 65 Years Old and Older

Indian Health Service and Tribal Direct and Contract General Hospitals, FY 1997

Diagnostic Category	Number of Discharges			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
All Categories	12,964	5,444	7,520	100.0	42.0	58.0
				100.0	100.0	100.0
Respiratory system diseases	2,669	1,166	1,503	20.6	21.4	20.0
Circulatory system diseases	2,624	1,206	1,418	20.2	22.2	18.9
Digestive system diseases	1,442	602	840	11.1	11.1	11.2
Symptoms, signs & ill-defined conditions	1,187	477	710	9.2	8.8	9.4
Endocrine, nutritional & metabolic disorders	943	339	604	7.3	6.2	8.0
Injury & poisoning	851	326	525	6.6	6.0	7.0
Genitourinary system diseases	849	309	540	6.5	5.7	7.2
Neoplasms	590	259	331	4.6	4.8	4.4
Skin and subcutaneous tissue diseases	501	218	283	3.9	4.0	3.8
Musculoskeletal system and connective tissue diseases	357	128	229	2.8	2.4	3.0
All other	951	414	537	7.3	7.6	7.1

Sources: Direct: On-request Report 21

Contract: On-request Report 19

CHART 26

Leading Causes of Ambulatory Medical Visits: Ages 55 to 64 Years, FY 1997

Endocrine, nutritional, and metabolic disorders is the leading cause of ambulatory medical visits for patients, ages 55 to 64 years, in IHS and Tribal direct and contract general facilities. The second leading cause of ambulatory medical visits is circulatory system diseases. These are also the top two causes for males in this age group, but with the order reversed. For females in this age group, the top two leading causes are endocrine, nutritional, and metabolic disorders and supplementary classification conditions (e.g., other preventive health services, well child care, physical examination, tests only, hospital/medical/surgical follow-up).

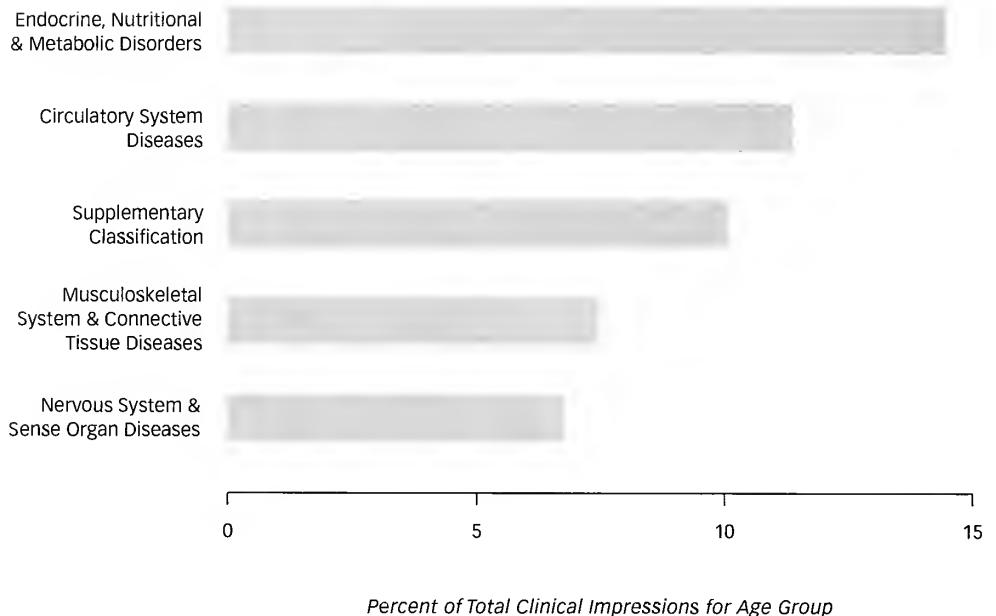


TABLE 26

Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 55 to 64 Years of Age

Indian Health Service and Tribal Direct and Contract Facilities, FY 1997

Diagnostic Category	Number of Clinical Impressions			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
All Categories	830,102	310,941	519,161	100.0	37.5	62.5
				100.0	100.0	100.0
Endocrine, nutritional & metabolic disorders	120,655	43,743	76,912	14.5	14.1	14.8
Circulatory system diseases	94,457	44,292	50,165	11.4	14.2	9.7
Supplementary classification	84,108	27,299	56,809	10.1	8.8	10.9
Musculoskeletal system diseases	62,670	21,079	41,591	7.5	6.8	8.0
Nervous system & sense organ diseases	56,199	22,002	34,197	6.8	7.1	6.6
Respiratory system diseases	54,694	17,951	36,743	6.6	5.8	7.1
Symptoms, signs & ill-defined conditions	43,038	15,703	27,335	5.2	5.1	5.3
Genitourinary system diseases	30,971	8,618	22,353	3.7	2.8	4.3
Skin & subcutaneous tissue diseases	28,642	11,673	16,969	3.5	3.8	3.3
Digestive system diseases	23,957	9,850	14,107	2.9	3.2	2.7
All other	230,711	88,731	141,980	27.8	28.5	27.3

Sources: Direct: Annual Report 1C

Contract: Annual Report 3A

CHART 27

Leading Causes of Ambulatory Medical Visits: Ages 65+Years, FY 1997

Circulatory system diseases is the leading cause of ambulatory medical visits for patients, ages 65 years and older, in IHS and Tribal direct and contract general facilities. The second leading cause of ambulatory medical visits is endocrine, nutritional, and metabolic disorders. These are also the top two leading causes for both males and females in this age group.

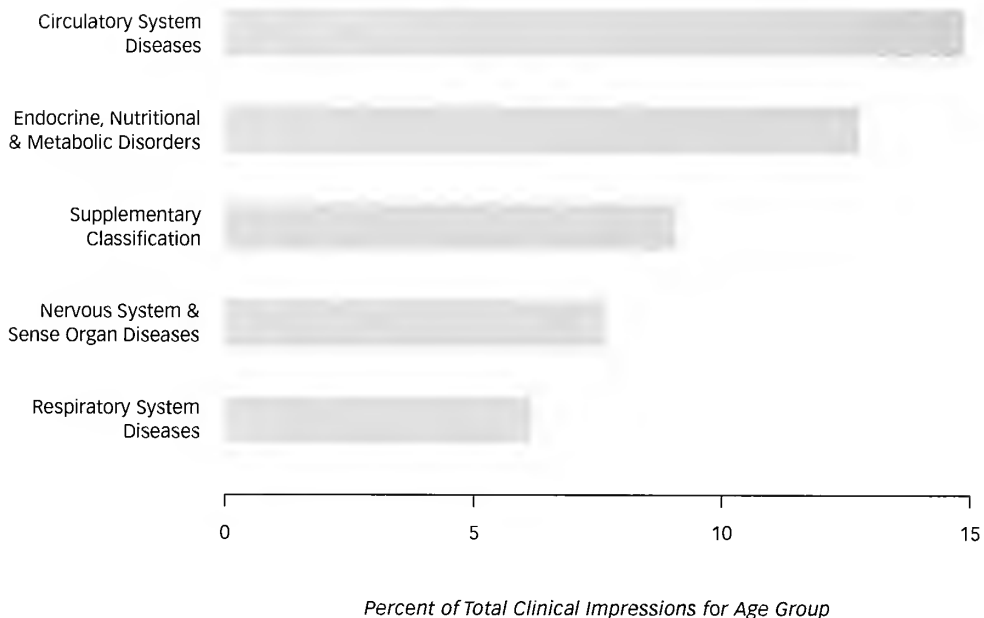


TABLE 27**Ten Leading Causes of Ambulatory Medical Clinical Impressions for Patients 65 Years Old and Over**

Indian Health Service and Tribal Direct and Contract Facilities, FY 1997

Diagnostic Category	Number of Clinical Impressions			Percent Distribution		
	Combined	Male	Female	Combined	Male	Female
All Categories	896,182	336,327	559,855	100.0	37.5	62.5
				100.0	100.0	100.0
Circulatory system diseases	133,213	54,260	78,953	14.9	16.1	14.1
Endocrine, nutritional & metabolic disorders	115,069	39,991	75,078	12.8	11.9	13.4
Supplementary classification	81,809	28,473	53,336	9.1	8.5	9.5
Nervous system & sense organ diseases	68,650	27,402	41,248	7.7	8.1	7.4
Respiratory system diseases	55,853	22,926	32,927	6.2	6.8	5.9
Musculoskeletal system diseases	53,888	17,053	36,835	6.0	5.1	6.6
Symptoms, signs & ill-defined conditions	45,983	17,252	28,731	5.1	5.1	5.1
Genitourinary system diseases	32,376	11,082	21,294	3.6	3.3	3.8
Skin & subcutaneous tissue diseases	29,017	11,895	17,122	3.2	3.5	3.1
Digestive system diseases	24,223	9,252	14,971	2.7	2.8	2.7
All other	256,101	96,741	159,360	28.6	28.8	28.5

Sources: Direct: Annual Report 1C

Contract: Annual Report 3A

Glossary of ICD-9 Codes

List of 72 Selected Causes of Death (1979-Present)

Cause of Death	ICD-9 Codes
Shigellosis and amebiasis	004, 006
Certain other intestinal infections	007-009
Tuberculosis	010-018
Tuberculosis of respiratory system	010-012
Other tuberculosis	013-018
Whooping cough	033
Streptococcal sore throat, scarlatina, and erysipelas	034-035
Meningococcal infection	036
Septicemia	038
Acute poliomyelitis	045
Measles	055
Viral hepatitis	070
Syphilis	090-097
All other infectious and parasitic diseases	001-003, 005, 020-032, 037, 039-041, 042-044, 046-054, 056-066, 071-088, 098-139
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	140-208
Malignant neoplasms of lip, oral cavity, and pharynx	140-149
Malignant neoplasms of digestive organs and peritoneum	150-159
Malignant neoplasms of respiratory and intrathoracic organs	160-165
Malignant neoplasm of breast	174-175
Malignant neoplasms of genital organs	179-187
Malignant neoplasms of urinary organs	188-189
Malignant neoplasms of all other and unspecified sites	170-173, 190-199
Leukemia	204-208
Other malignant neoplasms of lymphatic and hematopoietic tissues	200-203
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature	210-239
Diabetes mellitus	250
Nutritional deficiencies	260-269
Anemias	280-285
Meningitis	320-322
Major cardiovascular diseases	390-448
Diseases of heart	390-398, 402, 404-429
Rheumatic fever and rheumatic heart disease	390-398
Hypertensive heart disease	402
Hypertensive heart and renal disease	404
Ischemic heart disease	410-414
Acute myocardial infarction	410
Other acute and subacute forms of ischemic heart disease	411
Angina pectoris	413
Old myocardial infarction and other forms of chronic ischemic heart disease	412, 414
Other diseases of endocardium	424
All other forms of heart disease	415-423, 425-429
Hypertension with or without renal disease	401, 403
Cerebrovascular diseases	430-438
Intracerebral and other intracranial hemorrhage	431-432
Cerebral thrombosis and unspecified occlusion of cerebral arteries	434.0, 434.9
Cerebral embolism	434.1
All other and late effects of cerebrovascular diseases	430, 433, 435-438

Cause of Death	ICD-9 Codes
Atherosclerosis	440
Other diseases of arteries, arterioles, and capillaries	441-448
Acute bronchitis and bronchiolitis	466
Pneumonia and influenza	480-487
Pneumonia	480-486
Influenza	487
Chronic obstructive pulmonary diseases and allied conditions	490-496
Bronchitis, chronic and unspecified	490-491
Emphysema	492
Asthma	493
Other chronic obstructive pulmonary diseases and allied conditions	494-496
Ulcer of stomach and duodenum	531-533
Appendicitis	540-543
Hernia of abdominal cavity and intestinal obstruction without mention of hernia	550-553, 560
Chronic liver disease and cirrhosis	571
Cholelithiasis and other disorders of gallbladder	574-575
Nephritis, nephrotic syndrome, and nephrosis	580-589
Acute glomerulonephritis and nephrotic syndrome	580-581
Chronic glomerulonephritis, nephritis and nephropathy, not specified as acute or chronic, and renal sclerosis, unspecified	582-583, 587
Renal failure, disorders resulting from impaired renal function, and small kidney of unknown cause	584-586, 588-589
Infections of kidney	590
Hyperplasia of prostate	600
Complications of pregnancy, childbirth, and the puerperium	630-676
Pregnancy with abortive outcome	630-638
Other complications of pregnancy, childbirth, and the puerperium	640-676
Congenital anomalies	740-759
Certain conditions originating in the perinatal period	760-779
Birth trauma, intrauterine hypoxia, birth asphyxia, and respiratory distress syndrome	767-769
Other conditions originating in the perinatal period	760-766, 770-779
Symptoms, signs, and ill-defined conditions	780-799
All other diseases	Residual
Accidents and adverse effects	E800-E949
Motor vehicle accidents	E810-E825
All other accidents and adverse effects	E800-E807, E826-E949
Suicide	E950-E959
Homicide and legal intervention	E960-E978
All other external causes	E980-E999

List of 61 Selected Causes of Infant Death (1979-Present)

Certain intestinal infections	008-009
Whooping cough	033
Meningococcal infection	036
Septicemia	038
Viral diseases	045-079
Congenital syphilis	090
Remainder of infectious and parasitic diseases	001-007, 010-032, 034-035, 037, 039-041, 042-044, 080-088, 091-139
Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	140-208
Benign neoplasms, carcinoma in situ, and neoplasms of uncertain behavior and of unspecified nature	210-239
Diseases of thymus gland	254
Cystic fibrosis	277.0
Diseases of blood and blood-forming organs	280-289
Meningitis	320-322

Cause of Death

ICD-9 Codes

Other diseases of nervous system and sense organs	323-389
Acute upper respiratory infections	460-465
Bronchitis and bronchiolitis	466, 490-491
Pneumonia and influenza	480-487
Pneumonia	480-486
Influenza	487
Remainder of diseases of respiratory system	470-478, 492-519
Hernia of abdominal cavity and intestinal obstruction without mention of hernia	550-553, 560
Gastritis, duodenitis, and noninfective enteritis and colitis	535, 555-558
Remainder of diseases of digestive system	520-534, 536-543, 562-579
Congenital anomalies	740-759
Anencephalus and similar anomalies	740
Spina bifida	741
Congenital hydrocephalus	742.3
Other congenital anomalies of central nervous system and eye	742.0-742.2, 742.4-742.9, 743
Congenital anomalies of heart	745-746
Other congenital anomalies of circulatory system	747
Congenital anomalies of respiratory system	748
Congenital anomalies of digestive system	749-751
Congenital anomalies of genitourinary system	752-753
Congenital anomalies of musculoskeletal system	754-756
Down's syndrome	758.0
Other chromosomal anomalies	758.1-758.9
All other and unspecified congenital anomalies	744, 757, 759
Certain conditions originating in the perinatal period	760-779
Newborn affected by maternal conditions which may be unrelated to present pregnancy	760
Newborn affected by maternal complications of pregnancy	761
Newborn affected by complications of placenta, cord, and membranes	762
Newborn affected by other complications of labor and delivery	763
Slow fetal growth and fetal malnutrition	764
Disorders relating to short gestation and unspecified low birthweight	765
Disorders relating to long gestation and high birthweight	766
Birth trauma	767
Intrauterine hypoxia and birth asphyxia	768
Fetal distress in liveborn infant	768.2-768.4
Birth asphyxia	768.5-768.9
Respiratory distress syndrome	769
Other respiratory conditions of newborn	770
Infections specific to the perinatal period	771
Neonatal hemorrhage	772
Hemolytic disease of newborn, due to isoimmunization, and other perinatal jaundice	773-774
Syndrome of "infant of a diabetic mother" and neonatal diabetes mellitus	775.0-775.1
Hemorrhagic disease of newborn	776.0
All other and ill-defined conditions originating in the perinatal period	775.2-775.9, 776.1-779
Symptoms, signs, and ill-defined conditions	780-799
Sudden infant death syndrome	798.0
Symptoms, signs, and all other ill-defined conditions	780-797, 798.1-799
Accidents and adverse effects	E800-E949
Inhalation and ingestion of food or other object causing	
obstruction of respiratory tract or suffocation	E911-E912
Accidental mechanical suffocation	E913
Other accidental causes and adverse effects	E800-E910, E914-E949
Homicide	E960-E969
Child battering and other maltreatment	E967
Other homicide	E960-E966, E968-E969
All other causes	Residual

Additional Causes of Death and Their Corresponding ICD-9 Codes Which May Be Found in This Publication

(These categories are not included as part of the 72 cause of death or 61 cause of infant death lists.

They are independent of these two lists but are valid cause of death codes to use for the causes indicated)

Cause of Death	ICD-9 Codes
Alcoholism deaths	291, 303, 305.0, 357.5, 425.5, 535.3, 571.0-571.3, 790.3, E860
Alzheimer's disease deaths	331.0
Breast cancer (females)	174
Cervical cancer	180
Colon-rectal cancer	153.0-154.3, 154.8, 159.0
Drug related deaths	292, 304, 305.2-305.9, E850-E858, E950.0-E950.5, E962.0, E980.0-E980.5
Gastroenteric deaths	004, 006-009, 535, 555-556, 558, 562
Human immunodeficiency virus (HIV) infection	042-044
Injury by firearms	E922, E955.0-E955.4, E965.0-E965.4, E970, E985.0-E985.4
Injury and poisoning	E800-E807, E810-E825, E826-E949, E950-E959, E960-E978, E980-E989, E990-E999
Other injuries	E980-E989, E990-E999
Lung cancer	162.2-162.9
Maternal deaths	630-676
Prostate cancer	185

List of ICD-9 Codes Used in Patient Care Charts and Tables

Diagnostic Category	ICD-9 Codes
Infectious and parasitic diseases	001-139
Neoplasms	140-239
Endocrine, nutritional, and metabolic diseases and immunity disorders	240-279
Diseases of the blood and blood-forming organs	280-289
Mental disorders	290-319
Diseases of the nervous system and sense organs	320-389
Diseases of the circulatory system	390-459
Diseases of the respiratory system	460-519
Diseases of the digestive system	520-579
Diseases of the genitourinary system	580-629
Complications of pregnancy, childbirth, and the puerperium	630-676
Diseases of the skin and subcutaneous tissue	680-709
Diseases of the musculoskeletal system and connective tissue	710-739
Congenital anomalies	740-759
Certain conditions originating in the perinatal period	760-779
Symptoms, signs, and ill-defined conditions	780-799
Injury and poisoning	E800-E999
Supplementary classification (classification of factors influencing health status and contact with health service)	V01-V99

Method Used to Rank Leading Sites of Cancer Deaths

Site of Cancer Death

ICD-9 Codes

The causes designated by the symbol # were ranked to designate the leading sites of cancer deaths

Malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues	140-208
Malignant neoplasms of lip, oral cavity, and pharynx	140-149
# of lip	140
# of tongue	141
# of pharynx	146-149.0
of other and ill-defined sites within the lip, oral cavity, and pharynx	142-145, 149.1-149.9
Malignant neoplasms of digestive organs and peritoneum	150-159
# of esophagus	150
# of stomach	151
# of small intestine, including duodenum	152
# of colon	153
Hepatic and splenic flexures and transverse colon	153.0-153.1, 153.7
Descending colon	153.2
Sigmoid colon	153.3
# Cecum, appendix, and ascending colon	153.4-153.6
Other and colon, unspecified	153.8-153.9
# of rectum, rectosigmoid junction, and anus	154
# of liver and intrahepatic bile ducts	155
Liver, primary	155.0
Intrahepatic bile ducts	155.1
Liver, not specified as primary or secondary	155.2
# of gallbladder and extrahepatic bile ducts	156
# of pancreas	157
of retroperitoneum, peritoneum, and other and ill-defined sites	
within the digestive organs and peritoneum	158-159
Malignant neoplasms of respiratory and intrathoracic organs	160-165
# of larynx	161
# of trachea, bronchus, and lung	162
of all other and ill-defined sites within the respiratory system and	
intrathoracic organs	160, 163-165
Malignant neoplasms of bone, connective tissue, skin, and breast	170-175
# of bone and articular cartilage	170
# of connective and other soft tissue	171
# Melanoma of skin	172
Other malignant neoplasms of skin	173
# of female breast	174
# of male breast	175
Malignant neoplasms of genital organs	179-187
# of cervix uteri	180
of other parts of uterus	179, 181-182
# of ovary and other uterine adnexa	183
of other and unspecified female genital organs	184
# of prostate	185
# of testis	186
# of penis and other male genital organs	187



Site of Cancer Death

ICD-9 Codes

The causes designated by the symbol # were ranked to designate the leading sites of cancer deaths

Malignant neoplasms of urinary organs	188-189
# of bladder	188
# of kidney and other and unspecified urinary organs	189
Malignant neoplasms of other and unspecified sites	190-199
# of eye	190
# of brain	191
of other and unspecified parts of nervous system	192
# of thyroid gland and other endocrine glands and related structures	193-194
of all other and unspecified sites	195-199
Malignant neoplasms of lymphatic and hematopoietic tissues	200-208
# Lymphosarcoma and reticulosarcoma	200
# Hodgkin's disease	201
Other malignant neoplasms of lymphoid and histiocytic tissue	202
# Multiple myeloma and immunoproliferative neoplasms	203
# Leukemia	204-208
Lymphoid leukemia	204
Myeloid leukemia	205
Monocytic leukemia	206
Other and unspecified leukemia	207-208



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